

THE WORLD'S GREATEST PC MAGAZINE

PCFormat

PROTECT YOUR ID

WHY YOU'RE LOSING £35 A YEAR

- » How to avoid online identity thieves
- » Fight back against phishers & frauds
- » Spot all the latest eBay scams

Quake Wars

It's Battlefield 2 with giant robots!

**Create this 3D scene**

Exclusive full software & step-by-step guide

EXCLUSIVE!

INTEL VIIV IS HERE

First review of the PC designed for downloading

**38** PAGES OF NEW KIT

- » X1900XT graphics cards
- » 10 high-end motherboards
- » Sub-£500 digital SLR cameras

HOW TO » MOD BATTLEFIELD 2 » SPEED UP DESKTOP SEARCHES » WIN THE X-FACTOR

PCFormat in your mag

#185 March 2006

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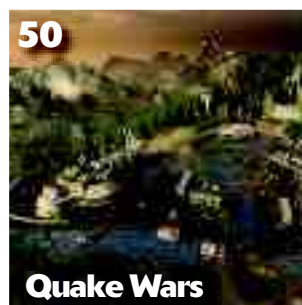
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Protect your ID

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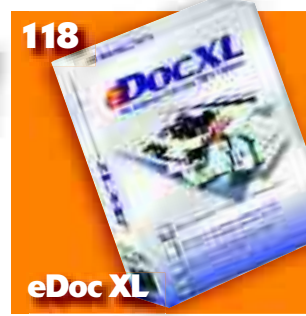
GENERAL

» CDRom-Lock » eDoc*
» Steganos Security Suite
» Tell Me More SE



WorldBuilder 3.6

Create beautiful landscapes with part one of our 3D terrain building tutorial



STILL BUYING CDS?

You get **15 times** more stuff on our **9.4GB DVD!**

On this month's DVD...

World party

Design beautiful 3D environments from scratch in minutes **page 110**

Tidy up

Organise and locate all your vital documents with our *eDoc* guide **page 118**

Free stuff!

All the essential apps and games you need to get the most from your PC

Sound idea

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Brain drain

You'll stagger! You'll break wind! You'll enjoy our zombie-tastic *Stubbs* demo!

Oscars assured

Train your starlets in our *Movies* demo and watch the awards flood in

Benchmark it!

The Lord of all system testing apps is here. Bow before *3DMark 2006*

Stubbs The Zombie

Fun with flatulence and disembodied limbs

DVD ONLY?

Games and apps marked with an * are also on the CD editions

PLAY THIS

A Stubbs the Zombie

Practice your George Romero casting techniques by learning to eat brains.

W,S,A,D Movement
LBM Attack
E Eat Brains
F Flatulence
H Throw Hand

B The Movies*

Become a Hollywood fat cat with Lionhead's brilliant movie mogul sim.

Cursor Keys Move Camera
LBM Selection
MSWheel Zoom
Middle Button Rotate

C Crashday*

Fender-bending frolics abound in this orgy of automotive destruction.

L/R Cursor Steering
Up/Down Cursor Accelerate/Brake
V Nitro
B Minigun
N Missiles

D TubeTwist

Didn't pay attention in science class at school? Don't worry: quantum acceleration's easy.

W,S,A,D Move Camera
LBM Select Piece

E Timeshift

Temporal shenanigans with Atari's time-sensitive first-person shooter.

W,S,A,D Movement
RMB Burst fire
E Slow time
F Stop time
X Reverse time

Loads more games content

GAME DEMOS

» Ankh » Mad Tracks*
» Mount&Blade » MX
versus ATX Unleashed
» Night Watch » Panzer
Elite Action » PizzaDude:
Special Delivery
» TimeShift » World
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» Doom 3: Into Cerberon
» GTA: SA – Multi
Theft Auto » GTA: VC
– KillerKip's VC Mod Pack
» HL2: Deathmatch Pro
» HL2: GoldenEye -
Source » HL2: Substance
» Q4: Quakemas Map
Pack » Q4: Stupid Angry
Multiplayer Bot » RTW:
Europa Barbarorum
» UT2004: MEGA Bonus
Pack » UT2004: The
Soulkeeper

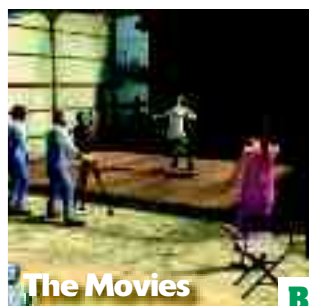
GAME PATCHES

» Age of Empires III v1.03
» Call of Duty 2 retail
v1.01 HTT » Civilization IV
retail v1.52 » Command &
Conquer Generals v1.8
» Prince of Persia The Two
Thrones Media Center fix
» RollerCoaster Tycoon
3 Wild! #3 » Serious
Sam II v2.066 » Stubbs
the Zombie v1.0.1 » The
Frozen Throne English
retail v1.20c » UFO:
Aftershock retail v1.1 –
v1.2 patch » Vampire the
Masquerade: Bloodlines
unofficial patch v1.8
» WarCraft III: Reign of
Chaos retail v1.20c
» X3 REUNION patches
v1.2.01 – v1.3game extras

GAME EXTRAS

» 50 shareware games

For a full list of everything on the disc please refer to the disc's interface and packaging. Controls for the games are listed there too.



The Movies



Crashday



TubeTwist



Timeshift

Do the time warp again...

On your disc you'll find the best apps, demos and tutorials

The best full programs

Our discs deliver top-quality, high-value apps and utilities. Let us know if there's something you want and we'll do our best to get it for you.

Play the latest games

Don't wait hours to download this month's best games demos. They're all here, right now.

Who needs manuals?

We want you to get the most from your free programs. PCFormat features more software guides than any other PC magazine in the world.

Technical support

We like to think our discs are always problem free, but if you do have any issues, contact the disc support team on 01225 822 743 or via email at: support@futurenet.co.uk.



PCFormat

Welcome

Recent figures suggest that ID theft costs the economy £1.7 billion a year – which apparently works out to £35 per person. That's enough for a copy of Quake IV and a clan server for a month. We know the risks of online trading, just as we know we shouldn't open email attachments. Yet the Kama Sutra worm still infects PCs worldwide, and we're still guilty of being blasé about security.

The only way to combat ID theft is through greater public

awareness, so while some might argue our coverline is a little tabloidy, grabbing people's attention is essential. The government is still banging on about ID cards as a panacea – although a £3 billion per year scheme to tackle a crime that costs just over half that is a bit sledgehammers for nuts.

It's not all doom and gloom from the internet this month, though; we're also marking the arrival of the first PC based on Intel's Viiv

standard, which will hopefully give a shot in the arm to the legal download services you've been waiting for. It's a bit underwhelming at present, but could be the start of something big.

Enjoy the issue,

Adam Oxford, Editor



**Alec Meer,
Deputy Editor**

In the same week, Alec sold his soul to the devil by finally buying an iPod. However, he earned his place in heaven by installing Ubuntu, the open source Linux distro that really does mean software without licensing charges. And, unlike so very many broken Linux promises of the past, he's actually using it for work and email purposes, though not as yet without a regular and shocking degree of profanity.

Achievement of the month Going cold turkey on buying Transformers figures from eBay. Thank God!



**Al Bickham,
Technical Editor**

What's all this Viiv business, then? Even bionic bonobo Bickham was a tad bemused by the concept. It doesn't actually involve any new technology at all – it merely represents a suite of existing technologies in a single PC. Educate yourself on p75, where you can pore over our exclusive review of the first Viiv PC.

Achievement of the month Proving to one and all that he's truly the office railgun king. Hastel!



**James Carey,
Games Editor**

This month Lucky Jim bore witness to the fact that *Doom 3* really was, in retrospect, quite poor. The work Splash Damage and Human Head have done with the *Doom 3* engine (on *Enemy Territory: Quake Wars* and *Prey*

respectively) has really shown id's game up. We also saw a whole squad of tactical shooters that revealed how and how not to go about room clearance simulation.

Achievement of the month

Looking all teh sexeh on p77, despite wearing a big, sensor-encrusted hat.



**Jeremy Laird,
Technology Writer**

Gadget gatherer Jeremy's month was spent salivating embarrassingly over the new X1900, and poring over reams of data thrown up by 3DMark 2006, the actual usefulness of which is still to be proved. Obviously, it's not all work, work, work for our resident technology gadfly, so he had to squeeze in a skiing holiday as well. What a man. Feel free to ingratiate yourself in his latest witticisms and see what he made of the latest skirmishes in the graphics cards war in *Geared Up* on p22.

Achievement of the month

Failing to baulk at the news that it's possible to spend £7,000 on an LCD monitor.



NEXT MONTH



DO YOU REALLY NEED PHYSICS?

**Exclusive review of PHYSX.
The new card that promises
to revolutionise your games**

PCFormat

ON SALE 23-03-06

PCFormat

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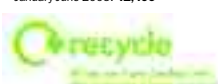
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AROUND THE WORLD WITH PCFORMAT

PCFormat's outrageous popularity isn't confined to the UK - the magazine is licensed to the following countries in Europe, Africa and Asia.

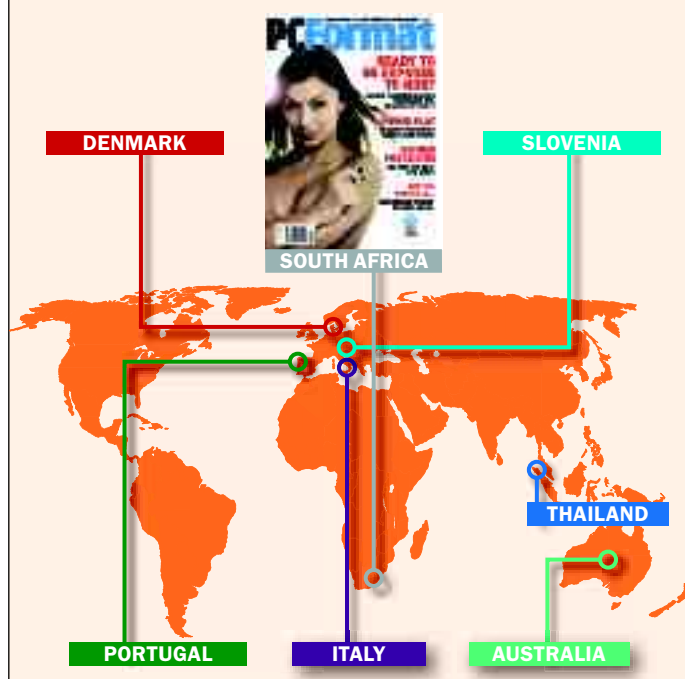


Photo © Corbis

Frontend

THE BEST OF THE MONTH IN COMPUTING

Eye Candy Top-set box

Laptop technology in a PC chassis? Sounds iffy, but actually, it's the way forward. This quiet, cool-running box of pure media lovin' from Shuttle is piece of art – and has enough grunt for light gaming duties. Its main purpose in life, however, is as a media centre PC. www.shuttle.co.uk

Under the hood

Pentium-M 1.73Ghz
512MB DDR400
250GB hard drive
2 x Avermedia analogue tuners
NVIDIA Geforce 6600
WinXP MCE
Wireless MCE keyboard/remote
802.11g Wireless

Megalomania

Disasatisfied with this world? Then build your own. This month, on p110, we show you how to use the fantastic *Worldbuilder 3.6*, on the coverdisc, to create spectacular landscapes.

Centre stage

Quiet and gloriously designed, the Shuttle Media Centre has stolen our hearts. They'll all be at it soon though, what with the arrival of Viiv, Intel's new media centre branding campaign. Every Viiv PC carries poke enough to be a media centre. Fast forward to page 75, where we review the first Viiv machine.

Know your roll

Every media centre PC should have control, and with the Shuttle, you get a keyboard with built-in rollerball for mouse-work and a remote handset to control Media Center Edition with. But for traditionalists and gamers, we've a pleasant surprise in store: head to page 78, where we'll be rounding up the latest gaming optical and laser mice.



Google

No more Mr Nice Guy

With giants of the net allowing the Chinese government to censor their sites, is Google a hero no more?

Try typing 'Tiananmen Square' into Google's image search. Do you see rows and rows of photos of tanks and protestors from the fatal suppression in China, 1989? Yep. OK, now grab a flight to China, go find an internet-enabled PC and repeat the process. What do you see now? Thanks to Google's decision to allow government censorship of its search results in the world's most populous country, you'll see tourist-board friendly shots of picturesque Chinese architecture, with no hint of the 1989 state-sanctioned murder of student protestors. At the time of writing, deliberately spelling 'Tiananmen' wrong did result in non-censored results, but you can bet this too has since been 'corrected.' And it's but one of dozens of search terms that google.cn restricts access to – try 'dalai lama' or 'human rights', for instance.

So why would the web's first superpower allow itself to be so

restricted by Asia's own superpower? CEO Eric Schmidt justified the censorship thusly: "We concluded that although we weren't wild about the restrictions, it was even worse to not try to serve those users at all. We actually did an evil scale and decided not to serve at all was worse evil." And, of course, it would mean missing out on the usage statistics and advertising for a potential 1.3 billion people. But Google's baby steps into the brave new world of the Chinese internet doesn't seem to have gone as hoped, recently its share price dropped a staggering \$53 in one day – around 20% of its former value. After decades of frostiness, business between the US and China is booming, and it looks like no-one wants to rock the boat – no matter what the cost in freedom of speech, often proclaimed the internet's greatest asset.

Google isn't the only tech giant at it, either. Microsoft has

The big screen

We love the LG Flatron M2343A-BZ – 23 inches of widescreen joy and the perfect partner for the Shuttle Media Center. But they've gone one better. Check out the awesome 50-inch LG M5500C, reviewed on page 76. How they've managed to hone something so monolithically large to a crisp response time of 10ms, we'll never know...

**top
stories**

p15

SHARE TIME
Broadband goes
local in the US

p17

WEB DESK
Internet based
office suites

p18

DATA VAULT
Google refuse to
reveal results





Alec Meer
HAS SOLD HIS SOUL

There's nothing like a bit of evangelism.

Regular readers (the ones who know what pets I keep and send emails about my haircut) may recall my dilemma about iPods. To recap – should I buy one, given how homogenous it would make me and, if I did, should it be a more cost-effective and efficient 60GB full-size one, or the lollipop-lovely Nano? Well, the turmoil is at an end. I have purchased. And I went for the 60GB one in the end, should you care. What made up my mind was the discovery of a fabulous piece of software, one that circumvents much of what irritates about the iPod. On the disc and at www.yamipod.com you'll find YamiPod. Simply drag its single file onto your player and then run the application direct from the iPod in My Computer. That's right, no need to install bastard iTunes – you can plug the iPod into any PC without installation, then copy songs to or from it (the latter being something iTunes forbids), edit track info, create playlists, set up podcast or RSS feed downloads... all from an app made as freeware by a student. Give it a go, and if you like it, send the chap a donation – he deserves it.

☐ willingly deleted a 'controversial' blog from its MSN Spaces, at the behest of the Chinese authorities.

Journalist Zhao Jing's blog, written under the name Michael Anti, was known for its critique of the Chinese government. More usually, local authorities will block access to an offending site within China, but on this occasion the action was, disturbingly, taken directly by Microsoft.

BLOG BLOCK

Speaking to ZDNet, a Microsoft representative explained that the company was merely attempting to comply with the local Chinese laws. "MSN is committed to ensuring that products and services comply with global and local laws, norms and industry practices," he claimed. "Most countries have laws



Fair and square?

The search results for 'Tiananmen Square' in Google Images tell a thousand words about the terrible events in China, 1989. But not if you look for them in China itself...

require consideration of unique elements."

These unique elements appear to include a blogger writing about a Beijing

as "freedom" and "democracy." The move is so shocking that even Microsoft's renowned in-house blogger Robert Scoble, usually notorious for towing the party line, has spoken out about the scandal. Scoble wrote on his blog at scobleizer.wordpress.com, "Guys over at MSN: Sorry, I don't agree with your being used as a state-run thug. It's one thing to pull a list of words out of a blog using an algorithm. It's another thing to become

an agent of a government and censor an entire blogger's work."

INTERNET PAWN

Neither is the search giants' willingness to accept censorship a new thing – it's merely that seeing a firm as well-respected and independent as Google also kow-towing to government demands (something it won't do for US authorities – see p16) is something of a shock. Last year, Yahoo provided the Chinese authorities with the email address of an anti-government journalist, Shi Tao. He was sentenced to 10 years in jail for his outspoken criticism. Human rights groups are publicly decrying the actions of Google, MSN et al, but so far protests have fallen on deaf ears, though the defence has been that Microsoft and Google's very presence in China sets a positive precedent for its people having more access to the web's myriad information. But whatever the eventual outcome is, Google's reputation as the pioneering hero of the internet seems seriously, and perhaps for some irreparably, tarnished. **PCF**

"The Chinese MSN portal blocks words like freedom and democracy"

and practices that require companies providing online services to make the web safe for local users. Occasionally, as in China, local laws and practices

newspaper's editors being sacked, and an ensuing strike by journalists working at the paper. Like Google, the Chinese MSN portal already blocks words such



Political prisoner

Here's the recently-launched www.google.cn. In order for it to happen, Google agreed to let the Chinese government censor certain search terms and websites that might criticise it.

THEY SAY

"I think [the web] is contributing to Chinese political engagement... access to the outside world is preventing more censorship." Bill Gates weighs in.

TIME
STARVEDQuick ways
to entertain
yourself

1 WAGE WAR

Using the fantastic *Google Earth*, this project turns a previously inert map into a raging global battle for power. You gain rankings by taking highly populated cities with your armies.

gewar.net/index.html

2 GAME
MAPS

Ian Albert has mapped out various games by stitching images together. His biggest undertaking so far is mapping *San Andreas* in one enormous 7MB picture.

ian-albert.com/misc/gamemaps.php

3 TUNED UP

Got a spare £2,500 knocking around? Build an 11-tuner personal video recorder with a terabyte of storage so you can record 11 channels at once.

blogs.snapstream.com/2006/01/18/godzilla-pvr

4 SCANNED
PHOTOS

It seems that, with a few modifications, a flatbed scanner can be turned into a digital camera, producing interesting, and often bizarre, results.

www.scannerphotography.com

5 CAST
PARTY

Podzinger allows you to search thousands of podcasts by description. You can listen, download or subscribe via RSS or iTunes without ever leaving the results page

www.podzinger.com

Network
Neighbourhood

The challenge of keeping upstream with the Joneses could be easier than you think, at least in San Diego...

Desperate Housewives and David Lynch would have us believe that behind the white-picket fence, Soccer-Mom camaraderie of American suburbia lies a dark underbelly of hatred, but it's clearly not so in San Diego.

Several start-up companies are beginning to give beta equipment and software to neighbourhoods there that want to share their internet connections between different households. Companies like Mushroom Networks (www.mushroomnetworks.com) provide several houses in a street with a

modified router, called the APX10, that wirelessly redistributes the street's bandwidth among members.

For example if ten people signed up, and they were all using their connection at the same time they'd notice no difference in performance, but if only five of them were online at one time they would see their bandwidth double. It's a clever system but there are some legal questions. Most ISPs stipulate in your contract that the connection is only to be used by that particular household. Sharing infrastructure in this way could be seen as breaking

that rule. Theoretically, you could even use the modified router to leech your neighbours' bandwidth even if your house had no connection itself, so there are questions of trust too... Loaning the neighbours your lawnmower is one thing, paying for their eBay browsing is quite another.

It's certainly an interesting idea though, and one we'd be keen to try ourselves. If they can get around the technical challenges of wi-fi ranges and legal loops of connection sharing, this project definitely has huge potential.

Sharing with neighbours from hell could be more trouble than it's worth.



Caught TV

Day 43 in the Shoreditch neighbourhood, residents get ASBO TV over broadband

The lucky people of Shoreditch, one of the UK's most deprived areas, are set to become the "largest ICT literate broadband community in Europe" according to the Shoreditch Trust. The association, in partnership with Video Networks Ltd, are setting up a Shoreditch Digital Bridge.

While the proposed IPTV, office apps and email

services are benign, some residents are wary of the plans for patching 500 odd CCTV cameras into the same network. The press release also boasts of "a 'Usual Suspects' ASBO line up" where citizens can view the mug shots of ABO offenders in the area.

The Information Commissioner is taking a keen interest and has shown some concern that

the service may not comply with the CCTV code of practice. Assistant Information Commissioner, Jonathon Banford, stated that "It does raise concerns and issues for data protection." Still, with access to 500 cameras, at least there's bound to be something decent to watch on the telly...



FACT!

It was with Phil Collins perched menacingly atop the Top 40 that the first ever internet domain name was registered. *Symbolics.com*, got there first on March 15th 1985.

WHO IS...
Samuel J. Palmisano
CEO, IBM



Hey, that's the dad from American Pie! Y'know, the one with the eyebrows. Many's a night we've prayed Eugene Levy would become head of the firm that birthed the modern PC, but sadly IBM's current CEO isn't so much of a comic.

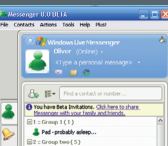
Boo. Tell us how old he is and what he used to do. There'd better be some sort of anecdote, mind. Well, he's 55, and has been at IBM since 1973, having at some point held pretty much every job with 'president' or 'chief' in its title since then.

Make him say something funny. "Growth was created by technical advances. Whether it was the mainframe, the microprocessor, the graphical user interface, or internet protocols, new technologies sparked a new wave of demand. But that pattern isn't going to be repeated this time." No, we didn't laugh much at that, either.

PCFtest IM CLIENTS

With the steady emergence of hybrid voice/IM clients, which of the gamut should you use to harass your dear friends with?

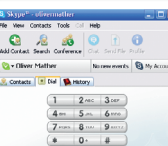
What is it?



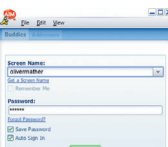
Windows Live Messenger (beta)
ideas.live.com
Essentially MSN Messenger 8.0, Microsoft has simply re-branded.



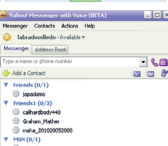
Google Talk (beta)
www.google.com/talk
Google's rather tentative jump into the voice/IM fray offers PC-to-PC calling, IM and Gmail checking functionality.



Skype 2.0
www.skype.com
Skype has popularised PC-to-phone call capabilities. The newest incarnation adds free video-calling to the feature-list.



AIM Triton 1.0.3
www.aim.com
Breaking away from vanilla AIM, AOL has created a new client, bringing together IM, voice and eventually video capabilities.



Yahoo Messenger with Voice (beta)
messenger.yahoo.com
Version 7.5 of Yahoo's Messenger client adds VoIP functionality.

Pros

WLM has a lot to offer – from phone-calling capabilities to folder-sharing. The interface has been made more intuitive and given a facelift.

What it does, it does with minimal effort required. The built in Gmail notifications are useful. The lack of advertising is also a major plus.

As a VoIP client, Skype excels. You can even call your PC from a normal phone line.

Triton neatly attaches itself to the side of your screen. It has all the frills and a clean interface.

Has an attractive interface, and unintrusive adverts. An upcoming partnership with Microsoft also promises future interoperability with MSN.

Cons

As with later versions of MSN Messenger there's advertising that consumes a large part of the client. WLM also used the most RAM, tying up 30MB.

Sporting just three real features, it feels a spartan when you compare this with its IM brethren. Messaging functionality is also minimalist.

For text chatting, there are better options available as this offers only basic IM features.

A copy of AOL Explorer was cheekily bundled with Triton. Voice-chatting options are limited.

There is an element of the bloat factor to Yahoo's client and it can be frustrating if you aren't a die hard Yahoo! fan as there are plugs galore.

Score

4/5

4/5

3/5

4/5

5/5



CONCLUSION

To a point, the client we tested offered varying degrees of competence in voice and text chat. Yahoo Messenger does, however, take top-spot for its strong abilities in both instant-messaging and VoIP while managing to keep a clean interface with minimal advert-clutter. For pure VoIP capabilities though, you can't beat Skype.

Digital sheep rustlers

Shrewsbury Town supporters recently kidnapped the alleged 'partner' of a Carlisle fan – a blow-up sheep named Myfanwy – and held her to ransom on eBay. The act

was performed in response to a hellish, day-long journey for the Shrewsbury supporters to see an away match against the offending team, only to find, upon arrival, that the match

had been cancelled despite constant assurances to the contrary. What will become of the poor sheep? Check Myfanwy's plight out for yourself at <http://tinyurl.com/dbd42> and marvel.

CD-RMedia
.co.uk

Verbatim
Official Distributor



Verbatim DVD-R 8.5Gb
Dual Layer
4x Speed
Jewel Cased 5 Pack
Only 3.38 per disc



Verbatim 80min/700mb
DataLife
52x Speed
Spindle Tub of 100
Only 12p per disc



Verbatim DVD-R 4.7Gb
16x Speed
Spindle Tub of 25
Only 27p per disc

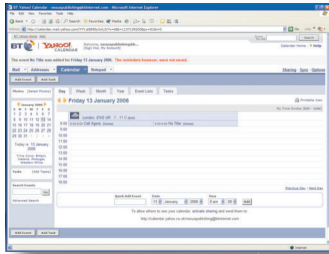
Order via the web for Special Offer

Tel. 0845 230 4455

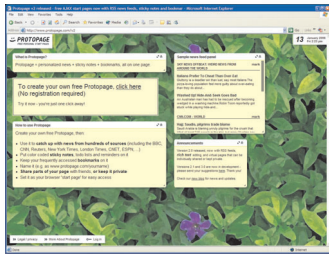


Promo code: VERB-PCF 200 FREE MEDIA POINTS

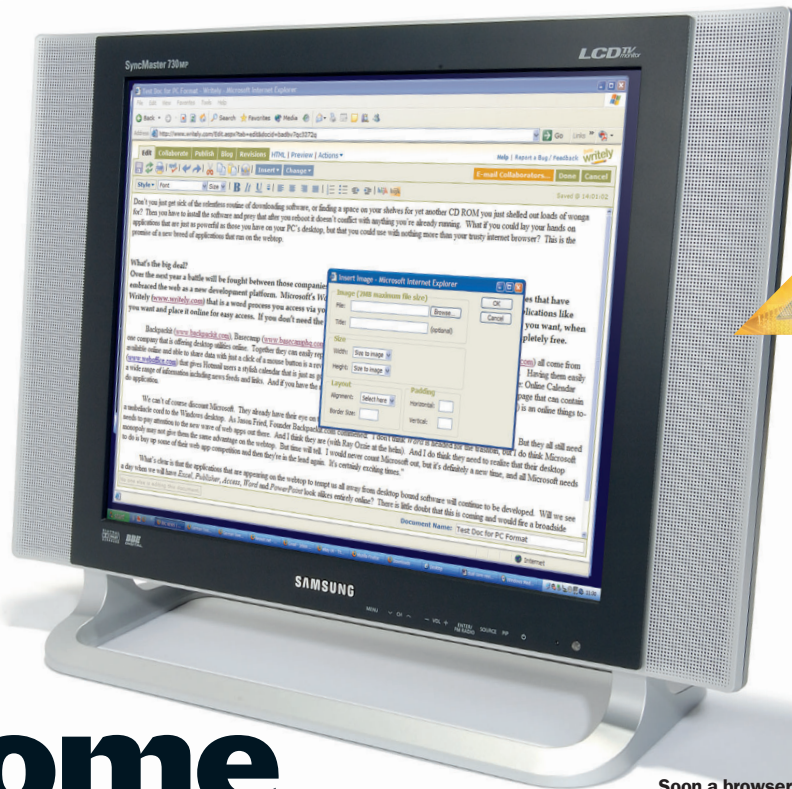
visit us on the web www.cd-rmedia.co.uk



There's a variety of apps available.



Escape the restraints of Windows.



Soon a browser could be more important than your desktop.

Welcome to the Webtop

Fancy throwing off the chains of desktop applications? With the new breed of web software, all you need is the internet...

Don't you just get sick of the relentless routine of downloading software, or finding a space on your shelves for yet another CD-ROM? Then you have to install the new app and pray that after you reboot it doesn't conflict with anything you're already running. What if you could lay your hands on applications that you could use with nothing more than your trusty internet browser? This is the promise of a new breed of applications that run on the webtop.

WHAT'S THE BIG DEAL?

Well, take Writely (www.writely.com) for example. It's a word processor you access via your browser that could eventually give Word a run for its money. If you don't need advanced features, Writely is superb and completely free. Think of Writely as an online version of WordPad, but with the ability to share and collaborate with other writers via the internet. The speed of your connection does influence how fast Writely operates, but once your document is open you hardly notice a delay. If you want to

edit text for your blog, say, Writely is excellent. For composing your last will and testament, less so.

Other webtop applications like Backpackit (www.backpackit.com), Basecamp (www.basecamp.com), Writeboard (www.writeboard.com), Tada List (www.tadalist.com), Protopage (www.protopage.com) and Rememberthemilk (rememberthemilk.com) all offer traditional desktop utilities online. Some you may find don't

offer you anything special, while others could be an epiphany.

A halfway house can be found in software such as OpenOffice, which can be run on a USB drive, firing yet another broadside across the bows of

Microsoft's Office suite that still needs an umbilical cord to Windows. We can't discount Microsoft though; it already has its eye on the webtop with Windows Live and Office Live (ideas.live.com), but Office 12 had better be something very special.

So, if you wanted to move all your work to the webtop could you today? The short answer is no. They all suffer from version 1.0 syndrome. But unlike software that needs development cycles, webware can be updated daily. In time they could make desktop apps as archaic as the command line.

Moving the software we depend on online might seem like a no brainer, but it would be a tectonic shift. We can't abandon our desktop apps just yet, but when it comes to upgrading your copy of Office or Works, you may just hesitate to get your plastic out.

"Office still needs an umbilical cord to Windows"

HEARD THIS? "Almost unbelievably, the nerd fantasy of 'death to Microsoft,' dreams of Apple ascendancy and the web as the platform all seem to be coming to pass." Clem Chambers, CEO of Internet businesses ADVFN (www.advfn.com) gets excited.

HOT

DivX on Xbox 360
Using Windows Media Encoder, DivX files may be streamed to the Xbox 360. Details on forums.xbox.com/1211048/showpost.aspx

Norris Response
Chuck Norris responded to circulating 'facts' about him, such as on www.chucknorrisfacts.com, saying he doesn't take offence. There hasn't been an increase in roundhouse kick related deaths, so we're inclined to believe it.

PC games rock
Latest figures show PC games outsold Xbox by nearly four to one in 2005, according to a recent poll.

Lesson in marketing
We can't help feeling that NEC's laptops aimed directly at school kids is cynical and problematic. It seems the quickest way to segregate the students. Plus, they're worth slightly more than dinner money.

If the suit fits
Shipping company Bernuth ignored an email initiating a lawsuit as spam. Bad move. They lost the case in their absence and the High Court ruled that email was as valid as post or fax. With the amount of legal threats flying around the net, we're worried.

DDR2 prices up
Samsung are moving away from SDRAM towards NAND Flash memory (as in the iPod Nano) and prices have jumped five percent.

NOT

DUMB PROBLEM OF THE MONTH

Q My PC has been running with no problems for years, but recently it has started to reset randomly. I have run my virus and spyware software, but that hasn't fixed the problem. What can I do?

A If it's not malicious code then it sounds like component problems. The easiest thing to change, and possibly the cheapest, could be your power supply. If it is starting to fail then it is quite possible that if left alone it could take a lot of other bits with it. Cheap PSUs can be a false economy especially if they turn your graphics card into a frazzled mess, so we'd recommend going for recognised names like the Hiper 580W Type-R modular or the Antec Neo HE.



She knows. She knows all about your filthy, dirty searches.

We love Google after all

Giant refuses to give the US government search records

As part of an attempt to justify the enforcement of the Child Online Protection Act, originally written in 1998 to prevent children accessing pornography, the US government recently requested result samples from search engines. Many of the major players agreed, but the biggest, Google did not, claiming that compliance would suggest that the company was happy to hand over personal information for any reason.

The sample request consisted of both a list of the terms entered into the engine within a single week and a random sample of a million web addresses. Google's decision to stand in the way of the appeal for data, which was originally issued last August, has resulted in a move for a court order. Google's statement said that the company will "resist the motion vigorously."

Major concerns over the power inherent within the records that Google retains have always stemmed from the fact that records can be traced to a computer, meaning a detailed picture of a person's search habits could be collated. By way of contrast, Yahoo claims it responded to an equivalent request in a limited fashion, without revealing any personal information.

Privacy activists, who have in recent times criticised Google for the detail in which it keeps its records, may feel somewhat placated by Google's refusal to comply with the government's requests for potentially sensitive data, but this still threatens to be one of the most contentious data protection issues of all time.

Picture © Corbis

The GPS blow-dart

Batman, Bond et al have been tracking evil-doers back to their painstakingly melodramatic lairs with the help of ridiculously tiny tracking devices for years, but it's only now that the concept has come to life. The Pursuit Management System is an arrow-shaped blob of a glue-like substance containing a satnav

transmitter; police in LA shoot it through a blow-pipe at an escaping vehicle and can then track its real-time location. The plan is it'll save the freeways of LA from high-speed chases, as the increasingly long arm of the law simply waits until the perp reaches somewhere he can be more easily ensared. For more, see www.starchase.org.

39%
STAT!

The number of single folk who have tried dating someone they met online, according to StrategyOne. That's slightly more than our readers admit (see last month's back page).

NASA needs you

Eagle eyed types required for patient screen staring duties.

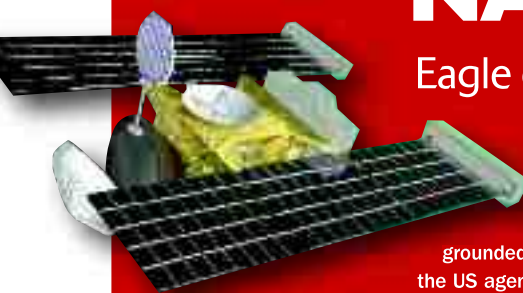
Space cynics cling to the fact that NASA's fleet of shuttles remain grounded, but recent stories from the US agency are all good. The rovers are beating Volkswagen for reliability (two years on the Mars is good for a decade of school runs). The Cassini probe is sending back pictures of

Saturn's moons (Hyperion resembles a giant sponge). And in January the Stardust probe landed, having flown through a comet's tail and collected particles from outside our galaxy.

The large, gel filled wings came back packed with samples from the tail of comet Wild 2. They are also expected to have gathered about 45 grains of interstellar particles. There's

just one problem - finding less than 50 sub-microscopic specks in the gel.

With the aid of the University of Berkeley, NASA wants volunteers to scan one and a half million photos of the wings for dust trails. There's an aptitude test and some basic training before you can take part. Sign up online at stardustathome.ssl.berkeley.edu.



The probe has been collecting dust like your average copy of War and Peace.

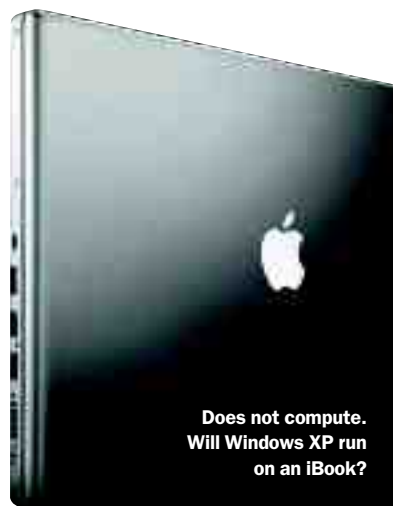
PC vs Mac, round #4,821

Apple upsets Intel, and Win XP on a Mac

Thought Apple and Intel were the best of friends now that the Core Duo-equipped MacBook Pro is a goer? Think again. Apple's bitchy US TV ad campaign for its new Intel-based systems claims until now the CPUs have been "trapped inside PCs – dull little boxes, dutifully performing dull little tasks". Reportedly, its improbable new bezzie mate, the Tony Blair to its Dubya, if you will, wasn't too happy about a slur against its other products and partners. "Never would we characterize our customers that way," Intel VP Deborah Conrad told reporters.

But more worrying to PC-dom than boardroom hissy fits is the revelation that Windows XP may run on new Macs. An Apple spokesman confirmed to us at a briefing on the Macbooks that, though steps have been taken to prevent the Intel-friendly OSX cropping up on non-Mac PCs, there isn't anything to prevent Windows XP – or Vista – installation. Initially, this was thought impossible, due to the replacement of the BIOS

with Apple's Extensible Firmware Interface (EFI), but the hack-race is on, thanks to a chap who bet his boss he could run both XP and OSX on his MacBook Pro. Donations on winxponmac.com, a prize fund to the hacker who makes it happen, total \$3,338 at the time of writing. For the good of the industry, we hope it fails.



NEWS IN BRIEF

WoW woz ere

One eagle eyed traveller passing through LAX airport in Los Angeles was surprised to see *World of Warcraft* related graffiti on the inside of his toilet stall; boastings of being a level 60 rogue on the Thunderhorn server. The concept of a previously niche pastime escaping into the real world has many surprised and demonstrates just what a cultural effect WoW has had.

Counter suit

Valve has fallen out with fast food company Subway after an advertising agency under contract with the sandwich chain paid server admins to run a mod advertising its sarnies as in-game posters. Valve was not contacted and as a result the firm, Engage, was in violation of the game's EULA. Valve said the case has become a "legal matter".

Ratings war

US television network NBC claims that iTunes downloads of the American take on *The Office* have had a reflexive effect on the ratings. The programme posted a Nielsen ratings score of 5.1, its highest ever, in the middle of a series. The leap came a month

after the comedy had been added to the iTunes online shop.

E-legal message

The US has introduced a law that makes it illegal to send annoying web or email messages anonymously. The law, which comes as part of the Violence Against Women and Department of Justice Reauthorization Act, is intended to prevent emotional harm, but could have worrying implications for bloggers and forumites, not least because what constitutes an annoyance is entirely subjective.

QUOTE!

"This is the 19th message by Bin Laden – difficult to keep track of. Fortunately, you can check out the complete catalogue at iTunes." The Daily Show is joking. For now.

Game over for HD-DVDs

Pledge to crack next gen discs, and a superior format arrives...

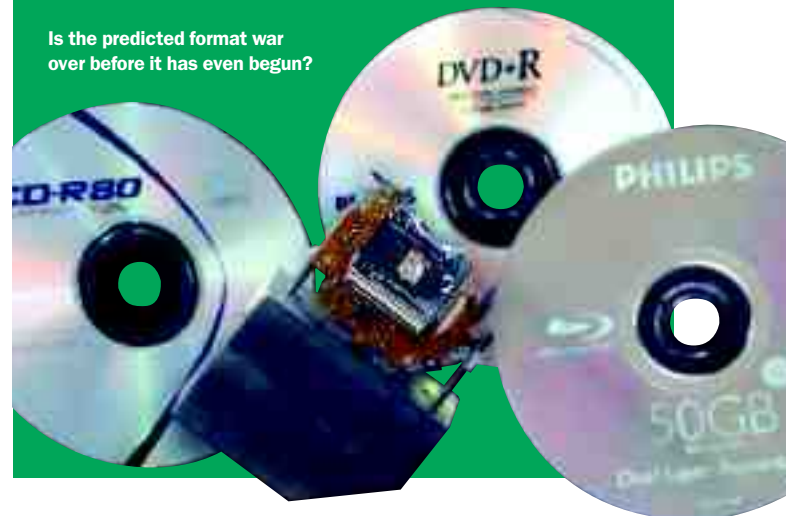
The copy protection system on next-generation DVDs will be cracked by the end of next Winter. That's the pledge made by 'DVD Jon', the canny programmer who found a way the circumvent CSS, the encryption code on DVDs, enabling them to be ripped and copied or played on non-officially-compliant platforms like Linux. Advanced Access Content System (AACs) is similar to CSS in that each compliant player has a decryption key it can use to decode a DVD movie; any non-sanctioned player without a key can do diddly-squat. The main difference is that each individual player, rather than player model, as previously, will have its own key, meaning any single set-top box or piece of playback software could be blocked should the movie industry so desire. And it's this that makes DVD Jon (real name Jon Lech Johansen) so determined. "AACs, like CSS, will be a success," he writes on his blog at nanocrew.net. "Not at preventing piracy. That's not the primary objective of any DRM system. Anyone who has read the CSS license agreement

knows that the primary objective is to control the market for players. Don't you just love when your DVD player tells you "This operation is prohibited" when you try to skip the intro?" Hence, he's registered www.dacss.com, and made clear his Winter intention.

Perhaps a greater problem for HD-DVD and Blu-Ray (BD), the two competing DVD successors, is the announcement of HVD. We wrote about holographic storage in PCF 182, but it's gathering up a real head of steam now, with the first 200GB disc due this June. Yep. 200GB. Disc.

Furthermore, the HVD Alliance (www.hvd-alliance.org) reckons the DVD-sized discs will eventually hold up to 3.4 Terabytes – that's 160 times the capacity of a Blu-ray disc. HVD isn't an automatic shoe-in to be the successor to HD and VD. InPhase's 'Tapestry Media' promises 1.6TB storage, while in the nearer future Hitachi has a 300GB disc of its own due. HD-DVD and BD had better sort out their differences – increasingly caused by Microsoft and Sony – soon, or they'll both be tomorrow's Betamax.

Is the predicted format war over before it has even begun?

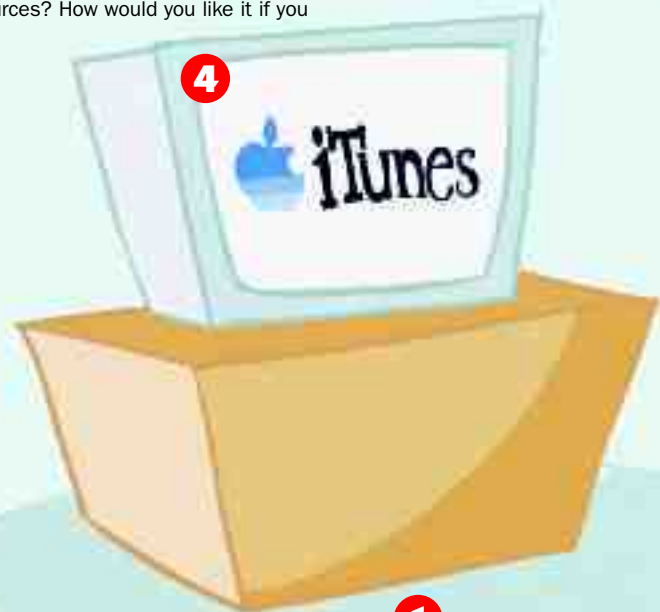


NO-NONSENSE ADVICE

PCF Guide to... Legal video downloads

As average home broadband speeds increase, the prospect of delivering on-demand TV through your fat pipe becomes a reality. Appealing enough, even, to lure the TV companies into a delivery model frenzy. We all want on-demand broadcasting via our PCs, but the question is, do we want to get it through a dozen different sources? How would you like it if you

needed a separate TV to watch *EastEnders* and *Corrie*? The race is on to establish a standardised protocol. Will the Kontiki backbone in both BBC iMP and Sky By Broadband prove victorious or can Google unify the web and moving pictures into one gloriously multimedia internet? Let battle commence!



1

2

3

Sky by Broadband

Price Free (to Sky subscribers) **Web** www.sky.com/skybybroadband/home

Sky subscribers get free access to this new broadband delivery system. The system is a peer-to-peer network based around the Kontiki platform, where users provide the infrastructure to deliver the video files they've already downloaded. You generally have 30 days to watch a file before it's deleted. Content is similar in quality to a DivX rip, with a two-hour movie weighing in at around 600MB with 96kb two-channel audio. As it's a P2P system, download speeds will vary according to number of users associated with the file you're after. Sky estimates around one hour for a two-hour movie on the minimum-spec 2MB connection.

- ✓ Free to Sky subscribers, and there's tons of content.
- ✗ Limited range of channels to star with.

Google Video

Price Pay per download **Web** www.video.google.com

In some ways, it could be argued that Google has won the IPTV race already. Video is democratised thanks to a blend of paid for stuff like CSI and open access-style content. What you get instead is a vast collection of home movies, obscure soaps, unheard-of films, stuff you might actually want to watch and, of course, barmy TV from the former Soviet Union together with unintentionally hilarious clips of bearded men teaching disco dancing to old ladies and whatnot. Uniquely, you can buy some of the higher production value content on here, too, rather than just a 30-day rental. Portable players are catered for with downloads available in both iPod Video and Sony PSP formats.

- ✓ IPTV for everyone, with the option to buy some of it.
- ✗ 79% is utter nonsense, but some blockbusters here.

BBC iMP TV

Price Free to licence payers **Web** www.bbc.co.uk/imp

Much of Auntie's programming is already available through the BBC website but iMP will unify the system. Basically, anything the BBC has made itself is up for grabs. So you could set iMP to download the 'series' *EastEnders*, and it would diligently suck down every episode to your hard drive for perusal at your leisure. It's not everything shown on the BBC though. Films and other programs the network have a limited broadcasting licence for to do not show up on iMP. Having said that there's even some hi-def content on there already, so it's certainly not all endless repeats of *Bargain Hunt* and *Doctors*. Trials are currently underway with a view to a full launch in the summer.

- ✓ TV, Radio and HD content. Free.
- ✗ Limited content. Upstream bandwidth hog?



4

iTunes

Price Varies \$1.99 for a music video
Web www.apple.com/itunes/videos

An impressive line-up of content providers. Shows like *Saturday Night Live* and *Alfred Hitchcock Presents* or even Oscar-winning short films from Pixar – and it's all in iPod-friendly MPEG4.

✓ Good content, and a simple delivery model, too.

5

Blinkx

Price Free
Web www.blinkx.tv

The Blinkx service boasts content in spades. BBC News, MSNBC, Forbes and CNN are all here, for example, but only free feeds that are already available on their sites. The *Minority Report* style video interface is great fun, though.

✗ Essentially just links to other IPTV service providers.

6

Orb

Price Free
Web www.orb.com

This allows you to stream content stored on your PC across the net. Your laptop may not have room for every *Simpsons* episode but your home rig might, so you needn't miss out on your favourite programs again.

✓ There's always something good on, because you own it.

7

Blueyonder TV

Price Free
Web www.blueyonder.co.uk/tv

This service is completely free. Content is limited but there are enough music videos and cookery programs to keep you busy for a while. Think Sky by Broadband, but with less content.

✓ Free to all, and the feeds are consistently good.

8

Homechoice

Price £15
Web www.homechoice.co.uk

Homechoice delivers similar content to Sky TV and Telewest, directly through your router. It even has a remote control specifically for kids that only lets them watch appropriate programming when you're not around.

✓ High value on-demand content, competitively priced.

9

BT Next Gen TV

Price TBC
Web www.bt.com

The telecom giant has signed content deals with providers like National Geographic, Warner Music Group and the BBC to deliver on-demand programming through your existing web connection.

✓ Pay-as-you-go options help to keep costs down.

10

Lovefilm.com

Price Varies per film
Web www.lovefilm.com

Established postal DVD rental company now turning its attention to digital downloads. There's a small number of titles and you must watch them within seven days. Windows Media 10 and SP2 required.

✗ Short viewing times, and some obtrusive DRM.



Jeremy Laird
SCREEN DREAMER

Dell finally delivers. Hands up who saw that coming...

Dell Computer Corporation. It's the company we love to hate. But its bigness needn't translate into market-monopolising badness. It should also allow it to engineer systems that otherwise simply wouldn't exist.

Recently, that's exactly what the firm has been doing. First came the Inspiron XPS Gen 2, a ground-breaking laptop that delivered the Holy Grail of mobile computing – desktop-busting graphics performance in a portable package. Next was a series of huge, high performance widescreen LCD panels at affordable prices (the newest of which is the 3007FPW shown opposite). However, it's the latest version of Dell's XPS desktop rigs that really shows the direction Dell is heading. For starters, the XPS Renegade 600 is factory overclocked to over 4GHz. That's a first for any Dell box. It also boasts unique (for now) quad-GPU SLI technology that was co-developed with NVIDIA. A gimmick? Perhaps. The XPS Renegade isn't going to be available in the UK, that's for sure. But any technology that raises the bar for performance is a good thing in my book.

Gearredup

THE HARDWARE ON OUR MOST WANTED LIST

Door-sized display



Dell 3007FPW

Price £1,471 **Available Now** **Web** www.dell.co.uk

Dell's 24-inch 2405FPW is probably the best PC display on the market. And this ludicrous 30-inch monster doesn't change that. At nearly £1,500, it's simply too expensive to be truly relevant to most PC users. But it's still a wondrous thing. It's the same size and boasts precisely the same pixel count (2,560x1,600) as Apple's flagship cinema display. In performance terms, however, takes Apple's finest outside and gives it a good shoeing. The 3007FPW is not only much brighter at 400cd/m² to the Cinema Display's 270cd/m². It's also much more dynamic thanks to a contrast ratio of 700:1. The Cinema Display makes do with 400:1. And needless to say, the 3007FPW is a nippier panel for gaming and motion video rendering – 11ms plays 16ms. Of course, you'll need a pair of top-end graphics cards from either ATI or NVIDIA running in dual rendering mode to have any chance of driving every one of those four million pixels at native resolution...

Desirable

Behind the screens

If NVIDIA's SLI and ATI's Crossfire multi-GPU rendering platforms were a solution looking for a problem, Dell has just delivered. With a native resolution of 2,560x1,600, you'll need all the graphics grunt you can get. You'll also need a card with a dual-link DVI port just to run this puppy in 2D mode.



Affordable excellence

Yes, this is a painfully expensive panel. But it's also big enough to give you a headache. And it should force the cost of Dell's already pretty parsimoniously priced 2405FPW even lower.

It's better than Apple's

The 3007FPW is the same size and resolution as Apple's priciest Cinema Display. But it packs a more modern LCD panel that's faster, brighter and boasts better contrast. It's a couple of hundred quid cheaper, too.

Format facts

HDCP is problem if you're in the market for a large, high def panel for your PC. Very few monitors currently support. But the 3007FPW does, so you can buy with confidence that you'll get the most from future Blu-ray and HD-DVD content.

Viiv box



Sony VGN-XL100

Price £999 Available now Web www.sonymstyle.co.uk

Putting the inevitable 'Viiva Las Vegas' gags to one side, it's a simple fact that CES provided the venue for the debut of the very first Intel Viiv-compliant desktop rigs. As a technology, Viiv is underwhelming. As a marketing exercise, it's been superlative. But ultimately, the market will be the judge of all things Viiv. Including this Sony HTPC box. CPU power comes courtesy of a 2.8GHz Pentium D dualie, storage is handled by a 250GB spinning thing and graphics are rendered by a GeForce 6600. And of course, it doesn't look like a PC. Slick? Yup. Innovative? Hardly.

Discrete



Tiny Tosh



Toshiba Gigabeat S 30GB

Price £220 Available spring Web www.toshiba.com.uk

The buzz at CES for Toshiba's first Portable Media Centre was altogether good. It's awfully compact, and light as a feather. It hops between portrait and landscape modes at the flick of a button. It offers theoretically iPod-crushing battery life (20 hours for audio, five for video) for more or less identical money. And it combines the ease of use and bullet proof PC compatibility of any PMC with support for a host of content provision services including TiVo and Vongo. And yet we're still not entirely convinced by the idea of a dedicated video device with a 2.4-inch QVGA screen. No matter how bright. No matter how vivid.

Credible



Flash music



GIGA Panel

Price £329 Available Now Web www.logitech.co.uk

Tired of your MP3 player bouncing off your dashboard every time you take a corner slightly too fast? Sick of those chunky holders making a mockery of the sleek design of your car's interior? You need Sony's latest in-car MP3 stereo. The removable fascia can be plugged directly into your PC via USB 2.0, with no extraneous software required, and you can drag and drop music files onto the 1GB Flash memory inside. Over £300 for a 1GB USB drive might be seen by some as a little pricey, but not our Sony.

Subtle stereo



Upstanding HD



Seagate Momentus 5,400.3

Price £242 Available Now Web www.seagate.com

Get perpendicular, baby. That's the cheesy catchphrase coined by Hitachi Storage. And it's exactly what the hard drive industry is currently doing. In simple terms, bits of data on conventional disks lie flat, with their magnetic polarity running end to end. On a perpendicular drive, however, the bits stand tall with top to bottom polarity. The result, in theory, is a doubling of data density. In practice, this new perpendicular laptop drive from Seagate delivers 160GB from a 2.5-inch form factor. That's not quite twice the 100GB of previous drives, but it's still a useful boost. Expect the first 200GB notebook disks before the end of 2006. www.seagate.com/products/notebook/momentus.html

Enormous



PREVIEW LOVELY LAPTOP

Duo delight



Core Duo T2400

Price £1,399 Available Now Web www.asus.com.tw

It was wall-to-wall Core Duo-powered laptops at this year's CES tech smorgasbord over in Las Vegas. But while Intel's new dual-core mobile CPU is damned impressive in any application, it's particularly stunning when shoe-horned into a compact, thin-and-light notebook. Like this new Asus item. It's a puny little 12-inch widescreen item, but Asus has specced it up with a Core Duo T2400. That's the same 1.86GHz chip as found in the most powerful of Apple's new Intel-powered 15-inch MacBook Pros. And just think. The ability to decode 1080p video content, even when encoded in brain-bendingly processor-intensive codecs such as H.264. That's something no desktop PC on earth could manage just six months ago. And all from a practically pocket-sized package that will run for three hours or more on battery power.

Mini marvel

Three alternatives...

Dell Inspiron 9400



Price £1,249 Available Now
Web www.dell.co.uk

A gig of memory. NVIDIA's new GeForce Go 7800. A 17-inch widescreen display. And a subwoofer. All standard with Dell's new Core Duo-compatible notebook. Yum.



Sony SZ



Price £TBA Available Late February
Web www.sonymstyle.co.uk

Sony's S series 13.3-inch widescreen lappy was our all-time fave. And now it's been killed, in favour of this excellent new carbon-fibre Core Duo creation.



Acer TravelMate 8204WLMi



Price £1,761 Available Now
Web www.acer.co.uk

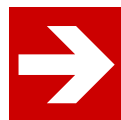
A thin and light 15-incher packing a 2GHz Core Duo proccy and ATI's mid-range Radeon Mobility X1600 graphics. A very nice all round package.



ANALYSIS

NVIDIA ON THE MOVE

ATI has launched a new notebook chip, but the green team is keeping the pressure on



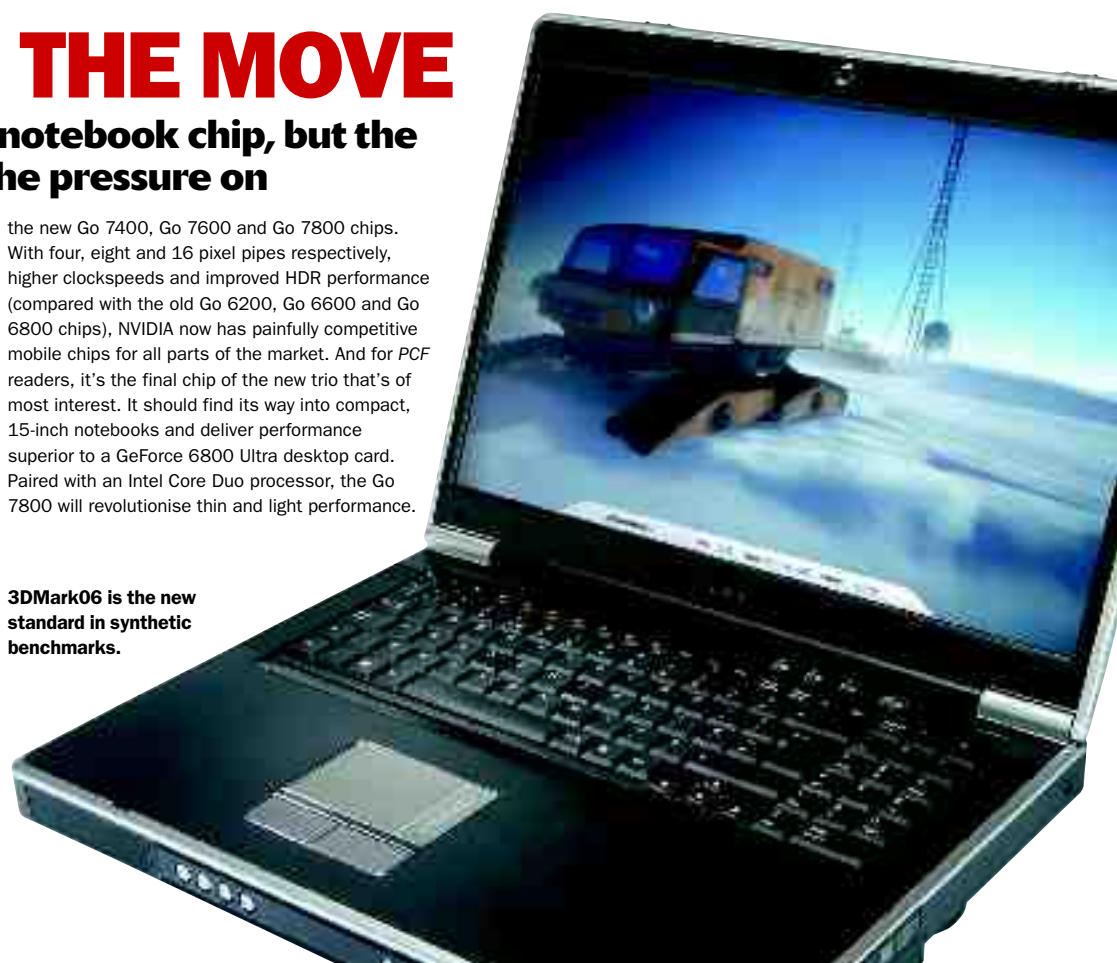
Apologies to the boys at ATI. But there's simply no denying it. NVIDIA is currently executing its product plans so very much better. For proof, look no further than mobile graphics technology. Until 2005, ATI had mobile video in the bag. Almost every notebook with a discreet 3D chip was powered by an ATI Radeon Mobility GPU. No longer. With the launch of the GeForce Go 6800 Ultra, NVIDIA suddenly raised the bar for mobile 3D performance.

Granted, ATI parried the 6800 with the Radeon Mobility X800. But few notebook designs have ever shipped containing that chip. And with the Go 7800 GTX, NVIDIA simply destroyed anything ATI has been able to come up with. Indeed, ATI presently lacks a genuine high-end mobile video chip. And given the clockspeed-thirsty, power-hungry nature of the Radeon X1800 desktop chip, we doubt the upcoming mobile derivative will be a 7800-killer. Loyal ATI fans will have to wait for Mobility version of the new Radeon X1900. And by then, NVIDIA will no doubt be offering a GeForce Go 7900.

Making matters worse, NVIDIA has now trimmed out the GeForce Go 7 series range with

the new Go 7400, Go 7600 and Go 7800 chips. With four, eight and 16 pixel pipes respectively, higher clockspeeds and improved HDR performance (compared with the old Go 6200, Go 6600 and Go 6800 chips), NVIDIA now has painfully competitive mobile chips for all parts of the market. And for PCF readers, it's the final chip of the new trio that's of most interest. It should find its way into compact, 15-inch notebooks and deliver performance superior to a GeForce 6800 Ultra desktop card. Paired with an Intel Core Duo processor, the Go 7800 will revolutionise thin and light performance.

3DMark06 is the new standard in synthetic benchmarks.



Gameslatest

NEWS FROM GAMING'S FRONT LINE



James Carey
TOTALLY LEATHERED

Subjectivity is definitely a matter of opinion

It's been a month of debate at PCFormat. We all love games in one way or another, but which games we love and why is a source of constant discussion – a healthy argument does you and your Reviewing Muscle good. Be wary of the uniformly acclaimed, dear reader, for it denoteth something fishy. Likewise, one man's stinker is another's manna, it's all a matter of flavour. There might be a gem of an idea buried in that pile of filth but you'll never know unless you go digging around for it.

However, with that colourful image in mind, there's nothing wrong with getting caught up in a bit of hyberbolic preview excitement every once in a while. Don't miss out on Oblivion. After our massive hands-on session our glee is still unabashed. Likewise, Splash Damage has got yours truly into quite a lather with their exceedingly ambitious project Enemy Territory Quake Wars. Find out why on page 51. Then coast over to the review section and digest the contents therein. Everyone's entitled to their own opinion, it's just that PCFormat's opinion is the right one...



DUE DATE March
PUBLISHER Atari
DEVELOPER Turbine
WEB www.ddo.com

In a world that already contains *World of Warcraft*, designing a new MMO becomes an increasingly difficult task. You have to be original. *DDO*, set in a new *Wizards of the Coast* world called Eberron, is shaping up to face this

"There are even athletic backward somersaults for evading blows"

head on. "When I started working on the game three years ago," explains David Eckelberry, former *WotC* rulebook creator and member of the Turbine team, "I said, we have to include voice-chat." The rest of the team weren't so convinced. "But then as we played what we'd made, we realised how fast-paced it all is, and they told me, we have to include voice-chat."

It's perhaps slightly surprising that a game so

loyally applying *D&D*'s dice-laden rules should be so heavy on the action. Real-time fighting, while decided by the maths of a D8 (+4) or suchlike, includes blocking, dodges and even athletic backward somersaults to evade blows. Even so, it's not all about the kills. In fact, no XP is awarded for baddy-slaying, but instead for the

completion of quests, levelling the playing field for more peaceful classes such as clerics or bards.

DDO will also strike a balance between private instances for quests and social spaces such as taverns for recruiting parties. "This isn't a game that can be solo'd," Eckelberry points out. "This is the recreation of six people sat around a table, with a plastic mat of miniatures and a few beers."

GOSSIP!

"If games turned players into murderers we'd be up to our necks in corpses." Vince Desi, CEO of Running With Scissors responds to a reported Postal fan stabbing eight in Moscow.

Not level minded

A call to action points the way ahead

With no XP given for kills, and 10 levels achievable at launch, *DDO* is definitively diverting from the XP-mining mindset of the MMO. However, players still need an incentive, and here it is in the form of 'Action Points'. Five are achieved between each level, allow you to make a minor modification to your character's stats. Perhaps you'll have a 20% boost on your fire-based spells, or gain a +2 on your haggling skills. They're just tweaks, but should encourage progress without supporting power-play.



Killing him may be a pleasure, but it won't get you extra XP.

"We're totally bewildered by the amount of possibilities ahead of us"

Oblivion

The wait is nearly over

DUE DATE April **PUBLISHER** 2K Games **DEVELOPER** Bethesda **WEB** www.elderscrolls.com

So, PCFormat is at a hands-on event with *Oblivion*. We've fought our way through the training levels and emerged into the bright, open world, bewildered by the amount of possibilities ahead of us. Imperial City is twinkling on the horizon, so off we set to seek our fortune. On the way we get distracted: we're knee-deep in grass and picking flowers, herbs and fungus, mixing them to make potions and powders with our alchemical skills. A deer walks past. It's dark by the time we arrive at the city and the guard inside the gates is grumpy. We gain entry to the city eventually, after some persuasion. We find a room for the night at an inn then spend the next day walking around the city, picking up small quests, doing odd

jobs for people, and generally helping out. Then at one point we're trying to get into a building to deliver a message we received earlier in the day, and the door won't open. Ah, we think, finally waking from this *Through the Looking Glass* dream, we've found a bug here. We call over a Bethesda representative to point it out smugly. "Well of course the door won't open," he says, "have you seen what time it is? Three in the morning. They're all at home in bed!" And they are, literally. *Oblivion* really is something quite out of the ordinary...

Oblivion isn't all rolling hills and beautiful vistas.

in the pipeline

A shadowy flight into a world of games that do not exist... yet

MARCH



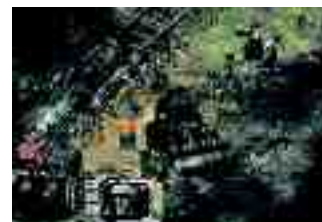
OutRun 2006: Coast 2 Coast

Boasting 12 fully licensed Ferraris you might not get the most cerebral of racers, but there's always arcade action aplenty in this classic franchise. www.sega-europe.com/en/Game/257.htm

MARCH

Act of War: High Treason

The first expansion to last year's all-action RTS hit *Direct Action*, sees things take a decidedly nautical tack. New toys include carriers, Harriers and the introduction of mercenary units. www.atari.com/actofwar



Shadow Vault

Convolved plot aside, this turn-based action/strategy title is touted as the filler for the hole left behind after *Fallout 2*. Whether it can justify such boasts remains to be seen. www.mayhem.sk

APRIL



MMOG Log

New approaches to MMO punishment and the chance to be all-powerful...

Apparently, a 'prison' holding area for troublemakers has been introduced into **Second Life**. Rather than ban or suspend users, Linden Labs has created an isolated 'cornfield' where mischief merchants can think about what they've done. There's nothing there but rows of corn, a slow tractor and a TV that plays a black and white behavioral corection movie.

The sixth expansion pack for the highly successful **Dark Age of Camelot** is here. **Darkness Rising** is essentially aimed at higher-level characters as you've got to be above level 30 to be able to embark on the new quests. All the extra features, however, will be available to characters of any level. Aside from this, the expansion will act as the new framework for any upcoming expansion of the game, giving the programmers a stronger foundation to take the series forward in the future.

Finally, Codemasters has a new MMO on the way. **Archlord** is interesting because although it to be just another fantasy RPG, each month one player is made ruler of the entire kingdom and can have all the fun that prestigious title implies. Tyranny ahoy! Check out www.mmoglog.co.uk more on this.



What will you do when you're King?



Battlefield 2

Euro Force & Armoured Fury

More expansion packs. Sorry, 'booster packs'

DUE DATE Out now and 28th
PUBLISHER Electronic Arts
DEVELOPER Digital Illusions
WEB battlefield.ea.com

Just over three months after EA's first faltering steps into digital downloads with the *Special Forces* expansion, another set of 'booster packs' are being exclusively distributed via the EA downloader. Priced

at £6 each, they contain three new maps, new vehicles and a smattering of new weaponry.

Presumably the online take-up of SF was high enough for EA to solely release these new expansions through its downloader and ignore the retail outlets. If this can keep costs down for add-

ons then it could well be a good thing, but it does seem like cashing in, so close after the last set of extras. The biggest kick in the teeth for PC owners is the fact that EA released a similar booster kit for Xbox owners for nothing, whereas we've got to shell out for the privilege.

UberSoldier

A zombie Nazi? Now that's an anti-hero!

DUE DATE 31st March
PUBLISHER CDV Entertainment
DEVELOPER Burut CT
WEB www.ubersoldier.net

As a bloody panacea to CDV's usual strategy fodder, *UberSoldier* promises to drop us into the gore-drenched jackboots of a genetically enhanced Nazi. Originally a Wehrmacht commander, Karl Stolz died in a partisan ambush and was subsequently revived in a horrific, Mengler-style experiment. Proving the old adage that the only good Nazi is a dead Nazi, he's come back imbued with supernatural powers and turned to face his abusers.

Every FPS needs a gimmick these days and *UberSoldier*'s is Karl's



Taking down the Nazis never gets old.

newfound abilities. So far all this seems to entail is a temporal shield that allows you to stop and suspend bullets in the air and turn them back on your aggressors. Nazis are still the best baddies though [*That's pirates, actually - Games Ed*], so let's hope this isn't just a *Return to Castle Wolfenstein* rip-off.

SPRING

Out of the Park Baseball Manager 2006

Sports Interactive is reaching out with its sports management arms and embracing America's obsession with rounders. This title is their first foray into the world of digital downloads. www.ootpbaseballmanager.com



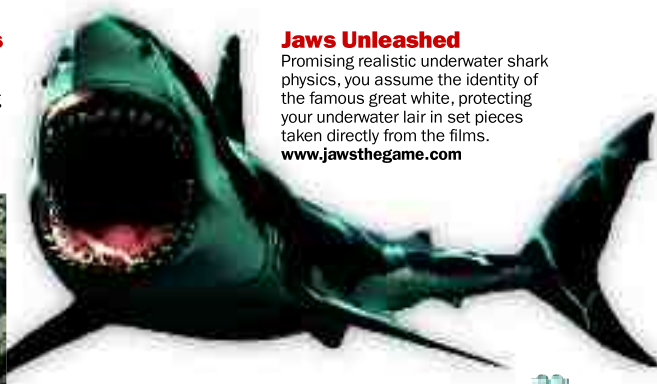
American McGee Presents Bad Day LA

With his tongue jammed firmly in its cheek, American McGee's latest offering plunges you into the cartoon world of LA under attack by Mexicans, earthquakes and a calamitous cavalry charge. www.enlight.com/bdla



Jaws Unleashed

Promising realistic underwater shark physics, you assume the identity of the famous great white, protecting your underwater lair in set pieces taken directly from the films. www.jawsthegame.com



SPRING

Half-Life 2 Aftermath

Call the nit nurse,
we've got head crabs

DUE DATE April 24th **PUBLISHER** Electronic Arts
DEVELOPER Valve **WEB** half-life2.com

More than a year after the original release, we are getting tantalisingly close to the next chapter of *Half-Life 2*, (you don't really count *Lost Coast*, do you?) Valve is remaining tight-lipped as usual, but PCF's bloodhounds have been out in force gathering every scrap of information tossed from the *Half-Life* table. Contrary to popular myth, it won't be limited exclusively to Steam downloading. EA has stepped into the breach and is going to distribute a boxed version in the shops for those allergic to Valve's online client.

Set entirely in City 17, this new episode follows on directly after the end of the original. The Citadel is coming down and Freeman and Alyx have to lead the flight from the city in order to save the populace from certain destruction.

Valve has expressed its regret that the players were on their own for much of *HL2*, despite the fact that they spent a lot of time building up other characters. As such, expect to find yourself with a few more allies this time around. We're also promised new ways for you to interact with the *HL2* world. could this mean Gordon taking command of the first strategic squad-based foray into the singleplayer game?

It'll soon be time to
rekindle the old love
affair. With the
game, of course.



SUMMER

GTR 2

The hardcore driving sim has been updated in all respects, from the new DX9 graphics engine to the improved driving model. At the moment, though, it's not clear whether these updates will justify another purchase. www.10tacle.de

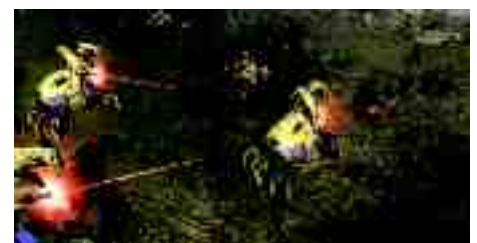


Age of Pirates: Captain Blood

It's not all wenches and gallons of grog, oh no, you get your very own boat to play with too! On ship you fight in glorious sea-battles against the po-faced Spanish and on foot you can swash and buckle. int.games.1c.ru/captain_blood

Maelstrom

More post-apocalyptic nightmares abound and to make matters worse the aliens are about to land. With a mix of strategy and third-person action three factions battle it out for Earthly dominion. www.codemasters.co.uk/maelstrom



AUTUMN



SpellForce II

Strap on your sword and don your thinking cap

DUE DATE April 21st
PUBLISHER JoWood
DEVELOPER Phenomic
WEB www.spellforce.jowood.com

The original *Spellforce* was let down by the patchy nature of its unification of the RPG and RTS genres. Phenomic's sequel looks to rectify that problem and give us the best of both.

So far, in the current code at least, the mix of *Dungeon Siege*-style hack'n'quest and *Settlers Building* 'n Resource collection is working well. Gathering an army, updating your headquarters then unleashing hell on unsuspecting Ork camps is thoroughly satisfying. These RTS elements have been improved over the original, adding in stalwarts of the genre like unit grouping and made more user friendly by allowing you to quickly target the strongest enemy in the area. All the classic RPG elements seem to be there too, from the magical weaponry to the gathering of heroes and temporary companions you can control.

Marrying these two seemingly separate worlds together could be disastrous if the balance between them isn't right. So long as one type of play doesn't dominate the other we could have quite an impressive game on our hands.



Let's hope these large-scale fantasy battles satisfy.

The Godfather

Are you a friend of the family?

DUE DATE March 24th
PUBLISHER Electronic Arts
DEVELOPER EA Games
WEB www.godfathergame.com

The long awaited digital version of the classic movie, *The*

Godfather, is only a month away from completion, but from the look of PCFormat's preview code, there's a lot of polishing to do before then.

Don Vito Corleone is nicely rendered thanks to Brando famously handing over his image rights just before his death, but unfortunately 1940s New York looks nowhere near as good. The

city seems a little small, with a lot of Manhattan Island off-limits and the surrounding textures flat and drab.

The idea is that you start as a low-level hood working his way up the Mafiosi hierarchy by completing various missions around New York in a free-roaming *GTA*-style. We had some top quality mob shoot-outs that were very reminiscent of the classic *Untouchables* game from the Nineties. The atmosphere of the films is definitely present and, let's be honest here, who wouldn't want to be a

digital wiseguy bullying butchers and setting up protection rackets?

Although the game is apparently being developed independently for consoles and PCs, we can't deny this is feeling a little portly, if you get our meaning. If so, this title could cause as much consternation with fans of the series as Mr Coppola casting his daughter in the third film...



Time to show the rappers what a proper gangster looks like.

GOSSIP!

"We are delighted to reach the next level in our relationship with Crytek," EA gets up close and way too personal with their new 'Crysis' IP, especially as Ubisoft still owns the *Far Cry* name.

AUTUMN

The Island The Earthling

Based on the best-seller, *Inhabited Island* by acclaimed Russian sci-fi writers the Strugatsky brothers, this sumptuous FPS places you in the unfortunate boots of a stranded human in an alien world.
www.akella.com/en/games/island



Snoopy vs the Red Baron

If you're anything like us then you've probably always wanted to put a couple of rounds into Charlie Brown's furrowed brow. Fingers crossed then that his cameo in Snoopy's dogfight fantasy will give you the chance.
www.namco.com/games/snoopy



Age of Conan Hyborian Adventures

Combining a large, story-driven singleplayer game as well as an even bigger MMOG you take on the role of Conan. Sadly though there doesn't seem to be a Grace Jones character...
www.ageofconan.com

WINTER



Watchthisspace

SHOOTING DOWN THE FUTURE OF TECHNOLOGY

Expensive videogames

If you think an Alienware PC is an pricey games machine, think again



This is the noisiest gaming peripheral in the world, and probably the most expensive.

The logic behind the Pentagon's decision to spend \$127 billion dollars on a robot army at the beginning of 2005, escapes us, but the Dutch Air Force has taken the award for military overspend with its latest project: a videogame that you need an F-16 fighter to play.

The curmudgeons (sorry, 'realists') among you might think that the idea is a joke, but in reality the way in which a fighter pilot flies a modern aircraft is usually just a ramped-up version of what we play at home – and they play in their simulators. For the full

effects of being squished about in a \$15 million aircraft travelling very fast indeed and being under fire, the Royal Netherlands Air Force have created a computer simulation that allows the pilot to 'play' against AI opponents that appear only in his instruments, and are not in the air at all. The clever old Dutch have also realised that this makes it much harder for enemies to work out what the pilots are training for, since their targets don't really exist.

New Scientist reports that our own RAF is also taking up the videogame gauntlet, but

its virtual combat will be multiplayer, with one pilot in an actual plane and others in the ground-based simulators. That beats our LAN gaming weekends, hands down.

Meanwhile, the US Air Force, has announced that it's looking for a games developer to develop a videogame to simulate 'counter-space operations' which is military-speak for someone getting up in to space in a rocket plane and shooting down enemy satellites. Whether we'll get a review copy of any of these games isn't clear – best get to work, eh Mr Carey? www.dtic.mil

At last! A self-aware robot

Well, kind of. Scientists at Meiji university in Japan have developed a robot that can recognise objects around it – including its own reflection. The clever neural network (which uses real nerve cells to control its 'fuzzy learning' circuits) allows the robot to distinguish from a number of different possible objects. The device is able to 'see' its reflection in a mirror and differentiate that from another robot identical to itself. Next month: robots that cry while being made to watch episodes of EastEnders. www.cs.meiji.ac.jp

This month in Science
April, 1961

The Soviets won the space race by sending Yuri Gagarin into orbit on April 12th 1961. Having landed safely in Siberia, he was met by bewildered peasants who were astonished to learn that he was from space.

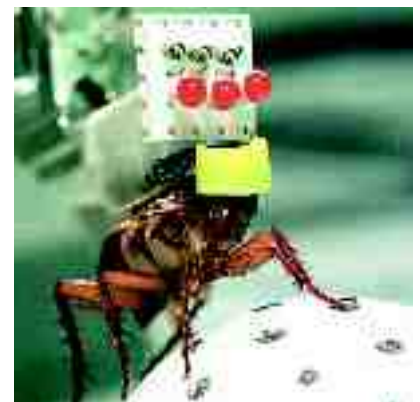
Radio roach

Radio-controlled, camera-toting insects could one day replace conventional spies

Radio-controlled cars don't seem to do it for Tokyo University Isao Shimoyama, whose latest research has created a system for the radio-control of cockroaches. The roaches are augmented with a backpack which is connected directly to the simple nervous system of the roach. Using a normal radio control, researchers can direct the movements of the insect, although cellphone interference is making the bugs go haywire. "We had an incident last week where we sent a roach into an duct to test for an air leak, when we asked the roach to turn right, it responded by asking for our email addresses and offered to send us viagra in return," Isao Shimoyama told Associated Press.

The potential applications of the radio-roach are large. The tiny creatures could soon be used to carry cameras into otherwise inaccessible places. The fact that they're so strong for their size could make them invaluable to exploration and espionage, that is so long as the next James Bond isn't squeamish about carrying around roaches in his cigarette tin...

www.leopard.t.u-tokyo.ac.jp

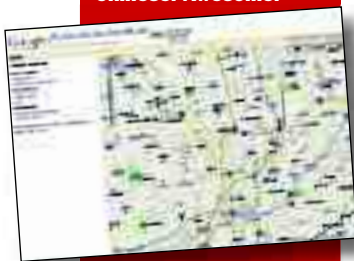


Hats at Ascot should serve similar purposes.

THE BEST MAP SITES

Google Maps
maps.google.com

No surprise here. Google Maps is remarkable. Although currently only the US, UK and Japan are road-mapped, the entire planet can be zoomed in to extraordinary detail. And then those that are mapped can be searched for the local Chinese. Awesome.



Streetmap
streetmap.co.uk

This site has the advantage of official Ordnance Survey mapping data, meaning that the familiar maps can be immediately searched and scaled. Somewhat lacking but familiarity still provides a strong advantage.

Mapquest

www.mapquest.co.uk

'Mapquest' is a term that's entering the language in a similar way to 'Google'. Famous for its driving directions, the site will tell you the ideal route from A to B. Generally these helpful, if a little peculiar on some of the minor roads.

Multimap

www.multimap.com

Multimap uses the Collins maps of Britain to provide you with directions to where you're going, or a clue to where you already are. Perhaps a slightly more friendly design than Mapquest's.

The webpages

MAKING SENSE OF THE MADNESS



FAST action

High Court orders ISPs to start the crackdown on illegal file sharers

For the last 12 months the Federation Against Software Theft (FAST) has been pursuing a campaign against people uploading copyrighted software to file-sharing sites. It has apparently highlighted 150 persistent uploaders and have successfully petitioned the High Court to order 10 ISPs to reveal the identities of these pirates.

FAST investigators conducted their covert ops by combing the file-sharing networks looking for the most popular software. It was then downloaded, to check that the file matched its description, and the IP addresses of the providers were then recorded. The service providers in question have just 14 days to provide FAST with the full details of the sharers matching these guilty addresses.

NOWHERE TO HIDE

This could well present a problem for some of the providers, because of the use of dynamic IP addresses, which change each time the user logs on.



Cremains LIFEGEM

It is a tragic time. A loved one has died, and you have nothing with which to remember them. Worse, you can't bear the idea of being apart from them. Well, what you could do is get their cremated remains turned into a diamond ring!

Industrial diamonds can be created, according to investigative site Snopes.com, by "subjecting graphite to extremely high heat and pressure." Quite why you'd want to turn your loved ones' crumbs into jewellery remains a mystery. Especially at LifeGem's prices, well over the regular usual cost. Except, of course, any other diamond wouldn't be made out of granddad.

The site worryingly states, "Cremations as a percentage of deaths is forecasted to top 36% by the year 2010." Don't you wait until people die before you burn them?

www.lifegem.com



Decency SMOKING MANNERS

It's probably a bit too obvious to link to sites that mock poorly translated Japanese. Oh, no, hang on. It's still *incredibly* funny.

Smoking Manners is a splendid collection of bemusing anti-smoking posters. What makes them special is the certainty that they can't have made a great deal more sense in their original Japanese.

The ultra-literalisation of metaphor is delightfully rendered, where the notion of an "old TV drama" is shown as a signpost with a clock on it, entitled "OLD TV DRAMAS".

"Would you stick a cigarette butt in the snowman that your children built?" In case this question is too confusing, a diagram accompanies demonstrating how one builds a snowman, finishing with the addition of "TOBACCO" after "COMPLETION".

And thirty-eight others.
tinyurl.com/agb3k



Air conditioning BREATHCAPTURE

You've had some time to think about a LifeGem now, while being convinced to give up smoking via the power of confusion, and you've realised that no, you miss your loved ones while they're still alive! You can't wait to you carry bits of them around with you. But they will fuss and moan when you saw things off their still living body. Thank goodness for BreathCapture.

The site assures us that we all need ways to remember loved ones, whether they be photos, a lock of hair or in this case their breath. Doesn't mention the crazy idea of, maybe, using just your memory.

Again, it's real. You can order earrings, a pendant, or maybe a necklace, into which the likely missed one breathes to capture it for all eternity. Probably so you can do voodoo or something.

www.breathcapture.com

FAST has tried to get around this problem by making a note of the time and date of each period of suspicious activity, along with the address. Unfortunately, not all the internet service providers routinely keep such information on file for that long. Some will keep user data on their servers for up to a year, but many won't keep

"FAST has been pursuing a campaign against illegal file-sharing websites"

them for such an length of time, possibly only a few months.

It won't be a problem for long as the big boys in the industry will use a new directive to force ISPs to keep the data for a minimum period.

The Creative and Media Business Alliance, a group of companies including such luminaries as Disney and Sony BMG, has managed to jump on the back of a European directive about data retention. Possibly as a result of the group's informal approach to MEPs, piracy has now been included on the list of 'serious' crimes that it covers, along with terrorism and organised crime activity.

FAST is keen to point out that it is not holding the service providers to

account and see them as "innocent in all this", according to Julian Heathcote Hobbins, Senior Legal Counsel at FAST, speaking on www.out-law.com. Indeed, he says that the service providers have all been very cooperative, but they needed to be served with court orders so that they can release the personal information and not breach the terms of the Data Protection Act.

Once FAST has all the information it needs to build a case, it will then work alongside the Crown Prosecution Service to decide what action to take.

Whatever happens, the share-happy bods involved will face some hefty fines or even a custodial jaunt. **PCF**



Urban decay MODERN RUINS

A recurring theme in The Web Pages has been the photography of the abandoned, and it's one we're happy to persist with. There's something remarkable and haunting about the our own creations in their demise.

Shaun O'Boyle describes ruins as "a window into human histories, they tell the tales of the past through the architecture and objects left behind. Ruins capture the imagination with their ability to tell stories, the rich language of architecture opens a window to the past, a poetry of architectural spaces, structures and found objects."

These are memories caught in their most fraught and fragile state. In the decrepit 'Holy Land' the crumbling remains almost shout about the folly of pride. Numerous galleries of fascinating sights are on offer, in this remarkable collection.

www.oboylephoto.com/ruins



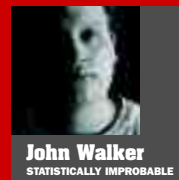
Vanguard FEDERAL VAMPIRE & ZOMBIE AGENCY

Continuing this month's accidental theme of death, and the causes of death, it's about time we learned of the Federal Vampire & Zombie Agency (FVZA). They've protected us from creatures of the night for the last few hundred years, and it's time we showed some gratitude.

This site is a tribute to the 4,000 FVZA agents who have died to keep you safe at night. Of course, if they died at the hands of vampires or zombies, that means they must have become vampires or zombies. 4,000 of them. Are these people really helping?

Their current focus is on campaigning against the actions of the Santa Rosa Institute, a medical research facility, which they claim is testing manipulated vampire DNA on animals. Grab the garlic, folks.

www.fvza.org



John Walker
STATISTICALLY IMPROBABLE

Copyright watch

John Walker thinks he must be holding these graphs upside down or something

You will never believe this! The BPI has released its album sales figures for 2005, and wouldn't you know it, it's gone up again! Despite the best attempts of pirates, terrorists and terrorist pirates, their tyrannical masterplans have clearly failed miserably, and 2005 turned out to be the "Best year in history for the artist album", as stated in the BPI press release.

Oddly, it fails to accompany the announcement that the 51st week of the year also marked the highest weekly sales of all time, with an apology for having spent the year lying publicly and suing children in Britain for downloading music. Presumably with the sixth year in a row of embarrassing album sales records, and this year a massive 48% rise in singles sales (which we were assured had been killed by downloads years ago), they won't be spending 2006 spreading more money-making bullshit, and threatening the livelihoods of families for their own sickening, foul-stenched wretched greed.

BPI – you are more despicable than it's possible to describe. That your entire board of directors has not

resigned over your scaremongering and unfair litigation of the last year demonstrates the complete lack of accountability upon which your disgusting and repulsive organisation so gladly relies. You are horrific. Just look at yourselves.

In far better news, NCSOFT, publishers of *City of Heroes/Villains*, have settled the ridiculous case Marvel Entertainment took out against them for the games' character creating tools. Due to their ability to create Marvel-like heroes, along with every other possible look imaginable, Marvel felt this was preventing it make another 90 trillion dollars a second, and had to put a stop to it. Much like suing Crayola for its crayons' ability to draw pictures of its IP, the judges laughed at the ludicrous nonsense, and in the end all the claims have been settled.

Perhaps it is an optimistic sign of a future of common sense over the maintenance of intellectual property, whatever the hell that really is. Come on – just believe it with me for a moment. And then don't buy any CDs all year.



Copyright watch man.
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EASY WAY!
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DISCUSS HOT TOPICS AT forum.pcformat.co.uk

Honourable mention

I am a member of a clan called Attack-Force-Delta (AFD) we are holding a LAN Party on 24-26 March in Dartford and I was wondering if there was any chance of our photos of the event being published in any of your magazines. I thought it would be a good idea as it might help promote LAN Parties a bit more.

WILLIAM HORNE
billyh@talktalk.net

PCF says Sure. Good luck at the event. We look forward to seeing the pictures. Have a pizza and frag a n00b for us... or something.

Awful but lawful

I have been watching your Copyright Watch section, and the various letters in your pages. I have been particularly interested in the music aspect, as I am an amateur musician.

Unfortunately, in your reply to Adam Todd (PCFormat 184), you have fallen foul of the proverb "Many a true word is spoken in jest". Hard to believe, but it is true. A music shop in Huddersfield has been told by the PRS that it needs to pay for a performing rights licence because people come into the shop and play recognisable tunes that are under copyright. I don't know if you have stood inside a guitar

shop on a Saturday afternoon, but I have, and I can tell you that the odd snatches of *Stairway to Heaven* and *Smoke on the Water* are hardly recognisable, let alone worth paying a licence for. How are they going to enforce this? Having an inspector hiding in the corner of every music shop, jumping out every time some poor young spotty faced youth plays something that is copyrighted? Are the youths going to have to learn riffs from Beethoven and Mozart to play on their electric guitars so they don't get charged with copyright infringement?

So Mr Editor, you could be next. Beware as you walk to work cheerfully whistling the latest pop ditty. You could be charged for copyright infringement. And it's jail now, not just a fine, just because you had the cheek to whistle *The JCB Song*. Thanks for a great magazine by the way. I find it invaluable in my day job as an IT lecturer specialising in hardware.

PAUL JEROME
www.jeromes.org

PCF says Walking to work? You give credit us with a healthier lifestyle than we are due. Still, it seems that every month we hear more and more cases of over zealous defence of copyright that seem to do more to stifle music than protect it. We can't help but think that many talented musicians started by noodling in guitar shops.



Worth getting out of bed for? You tell us.

Bendy bandwidth

For ages now I have pestered my friends with my idea for the best online game ever conceived. It's pretty simple really and I'm sure it could be done and would be popular.

Anyway as PCF are the only people I know with access to people who make games happen, I thought I'd branch out and pester you. All I want is for *Deus Ex* to be made into a MMOFPS. Surely its not too much to ask for a persistent world based in the *Deus Ex* style future where you can wander around being a vigilante, cold blooded killer, cyber implant dealer etc. It would offer so much for both PvE and PvP play it would be spectacular if done well.

Anyway, that's what I want. If you happen to see anyone from whichever

developer owns *Deus Ex* now, please mention this to them.

Thanks

ANDREW GRAYSON

PCF says If games developers listened to what we think, perhaps there wouldn't be any rubbish games. That aside, you might try Neocron (www.neocron.com) which is as stylistically close as you'll get to a *Deus Ex* MMO.

F.E.A.R. glitches cause problems

In reference to the email from Tim in PCF184. I too bought F.E.A.R. and struggled to get it to work. I knew from the moment it gave me the error message (similar to) "please insert original game disc" that it was the copy protection detecting something on my computer that could be used to copy the game. My first port of call however was straight to the game website, which when I tried to register my copy for tech support etc, did not allow me to state that I live in the UK, so I gave that a miss and just went to find the patch, which came out not long after release.

The patch didn't solve a thing, the same thing happened, but it did make the window with the message and OK button on it bigger though, which was nice. So after that I went and found a cracked EXE for the game and bing! It works great and I do not need to put the disc in the drive. It's a shame I had to get it to work this way as I do buy all my games, but I'm not going to uninstall all of my programs that certain games do not agree with.

Awesome game though, and I loved pinning the soldiers to walls, turning them into skeletons, and so on. It's extremely atmospheric and worth putting your surround sound on for. The invisible d00ds scared the crap out of me, mind.

PHILLIP MILES
Email supplied

PCF says Good point. Why on Earth are we allowing publishers to install software that either breaks our machines or conflicts with other software that we have bought legally. When will they learn?

Mail of the month

OVER TO YOU
Just how often do PCF readers fall prey to online evil? Find out on p162

Just thought you may be interested in a situation I have recently found myself in I have always downloaded my music legally via MSN UK: the albums tend to be cheaper than buying them retail and I can select the tracks I want.

However being a trusting sort I paid little attention to licence management, I always thought that my downloads where logged and had faith that any problems would be resolved by the mighty Microsoft.

So recently when I felt it was time for a spring clean, I reformatted my hard drive. I have a separate partition where I keep my media files music, video, etc. so no worries there, all went well until I tried to play my music files again, then the dreaded licence not found message raised its head asking me to contact them via email and quote the error number and what I had been doing to cause this problem. Fair play to them, I suppose they have a right to know why I need fresh licences.

I was able to download most of the music files again thanks to my recorded download history. but

alas fresh licences seem very hit and miss, leaving me with some legally paid for tracks unplayable. Kind of destroys my reason for staying legal.

CLIFFORD NUNN
clifford.nunn@ntlworld.com

PCF says We feel your pain; situations like this are becoming all too common, which does little to allay the fears of DRM sceptics. We did forward your mail to MSN but at the time of going to press there has been no comment.



Mail in and win

We've teamed up with ace memory suppliers Crucial www.crucial.com/uk to give the author of our letter of the month a fantastic 512MB Gizmo! USB memory drive worth over £15. It works flawlessly with every version of Windows after Me.

You can air your views and write to the team at PCF Mail, PCFormat, 30 Monmouth Street, Bath, BA1 2BW, or via email at the address below. Or you can visit our forum at forum.pcformat.co.uk.

pcfmail@futurenet.co.uk

PROTECT YOUR ID

OR SOMEONE'S GOING TO STEAL IT

Experts say that ID theft nets criminals £10m per day, but **Mike Abolins** can't get thoughts of Sandra Bullock out of his head

Sometimes, it's hard to take ID theft seriously. In between panicky movies like *The Net* and the forthcoming *Firewall*

(Harrison Ford in ID theft/family kidnapping clinch), and shlock-horror stories in *The Daily Mail*, one tends to build up a healthy scepticism about the whole thing. That is, until, you read about Brian Binley, MP for Northampton South (www.brianbinley.co.uk).

In January, criminals stole personal details and used them to hack into his bank account in an effort to steal £9,000. They also replaced his postal address with one of their own so that all correspondence relating to the account was sent directly to them. It was only on receiving a letter confirming the change of address that he found out what was happening. His is not a unique story; according to CIFAS (www.cifas.org.uk), a UK fraud prevention service, there were close to 120,000 cases of online ID theft and ID fraud in 2004.

Through the first nine months of 2005, CIFAS registered just fewer than 103,000 cases, 11% up on the same period in 2004. The Home Office estimates the scale of ID fraud at £1.7bn a year – that's £35 per person.

When you're out and about at the weekend, doing a spot of shopping or eating out, you can be fairly confident about your security

Always make sure you use reputable, secure websites when shopping for goods online.

"Shopping in reputable stores, and being careful with receipts will generally get you by"

in this respect. Shopping in reputable stores, taking care in disposing of your receipts and generally being circumspect when it comes to flashing your cards about will usually get you by. It's online ID theft that's made out to be far more insidious. Believe the tabloid horror stories or take Hollywood's interpretation too seriously and you'll be convinced that online ID theft could be taking place right now as you read this very article. But what's the truth? Are you really likely to be set-up by a ruthless criminal organisation or is it simply a pimply youth trawling the internet, hoping to come across a credit card number so he can sign up to few porn sites in your name?

DON'T BE AFRAID

"It ranges from the obvious to the seemingly crazy, actually", laughs Owen Roberts, head of ID protection at the CPP Group PLC (www.identityprotectionplan.co.uk), a company offering a protection plan to consumers that assists them in the event of an ID fraud. "It spans such a wide range of activities that you'd be surprised – though we should stress you shouldn't be worried. There's no need for anyone to be afraid of the web." This from a man who sounds like he's never been worried about anything in his life; after a career that's involved working in risk management for an investment bank on Wall Street, Roberts knows what he's talking about. "Online ID theft is still a pretty minor problem. Compared to the amount of credit card fraud, for example, it's very insignificant." According to figures released by APACS (www.apacs.org.uk), total credit card fraud cost £219.4 million in the first half of 2005; £16.1 million of that was as a result of ID theft while £58 million spent online by criminals using credit card numbers stolen on the high street in card-not-present fraud.

"Though the number of cases might be very small, the effect of ID theft is much more profound than many other types of fraud", Roberts explains. "It's a much more personal type of crime, one that

Keylogger 101

Is someone watching you?

Recording every stroke you make on your keyboard, keyloggers have long been a favourite for the opportunist ID thief. "Usually when you type, the keys you press are queued up in a buffer. They're then sent on to Windows which inputs them in the program you happen to be using", Kevin Hogan from Symantec explains. "The keylogger sits in this buffer, duplicates the data that passes through and sends a copy of it to a file stored in the PC's memory or to a text file hidden away on the hard drive. There's usually a trigger that'll cause this file to be sent out onto the internet, such as it reaching 100KB in size." Considering all the typing you do with your keyboard, there must be a lot of crap to sort through, we suggest. "There is, but [the thieves] can usually filter out what they want. New keyloggers are becoming intelligent enough to listen for specific URLs before they begin tracking."

There were over 103,000 cases of ID theft in the first six months of 2005.

■ causes extreme discomfort. When you think about someone masquerading as you, it really does hit close to home.” It can cost £8,000 and take anywhere between 60 and 400 hours of work by a victim of ID theft to repair the damage done, and that’s before you consider the damage done, albeit temporary, to their credit rating. Phishing, you won’t be surprised to hear, is Roberts’ tip for growth this year. “We’re really expecting it to blow up this year, despite the fact that a lot of phishing is really lazy. People still don’t check the obvious signals, such as a suspicious address in the From: field of the email or a distinct lack of personalisation. If I really am a “valued customer”, surely that’s worth addressing my by my name in

the body of the email?” Phishing is already the most common form of online ID theft taking place, according to figures from CPP, though spyware-related theft isn’t far behind.

While phishing is a relatively easy practice to defeat – consumer education and common sense being the two major weapons in combating it – spyware is a different target entirely. “Close to 74% of the malware that was reported to us or we picked up was related to ID theft in the first half of last year”, confirms Kevin Hogan, senior manager of Symantec Security Response for Europe. “And that’s a 35% rise on the same period during 2004; it’s a trend that represents the shift in who’s behind it. Malicious code like this has shifted



The best way to ensure that your printed ID records (such as a utility bills, for example) is to invest in a shredder, or lock them away somewhere secure.

“While phishing is relatively easy to defeat, spyware is a different target entirely”

from something a hobbyist would create for kicks to a more organised individual or individuals who’re out to glean personal information.” This malicious code, which isn’t necessarily a virus, but more often a Trojan, works in many ways. “We see a lot of phishing trojans which, when activated, run and masquerade as the log-in screen for an online bank, for instance. They know when to present themselves by monitoring the URL you’re visiting at the time.” It emerges during our conversation with Kevin, a gruff but charming Irishman, that monitoring your activities is a recurring theme among ID thieves. Some spyware takes a screenshot when you’re online and visiting a specific URL in the hope that it’ll capture personal information on-screen. And then there’s the keylogger (see boxout).

THE SILVER SCREEN

A piece of malware that sounds as if it’s straight from the minds of movie scriptwriters, we express the thought that keyloggers are almost too Hollywood to be true, the sort of thing you’re more likely to see on 24 than fall victim to yourself. “These are a lot more common than people think,” says Kevin, with an edge to his voice that betrays a detached amusement. “They’re mostly Trojans that are attached to spam, and that’s how they’re distributed. Others arrive via download sites and, obviously, peer-

to-peer services. Pornographic sites used to be a big problem but they’ve really cleaned themselves up in recent years.” So, the question has to be asked: who exactly is it who wants your ID and what do they use it for? “It’s mainly split into two; there’s the opportunistic criminal who’s after your credit card details in order to buy goods online or set up mobile phone contracts in your name, and then there’re the more organised groups” outlines Owen Roberts from CPP. The opportunistic online crim isn’t all that far removed from the blaggards who’ll trawl through your trash for receipts and bank statements and they, relatively speaking, tend to steal on the small scale. “It’s a high-volume, low-cost crime; it doesn’t require much effort or outlay to see results. It’s easy to drive them away as a result, because when it takes more effort to achieve the same results, they move on” says Roberts.

It’s the organised criminals that make for sensationalist headlines. Ranging from groups of ex-cons running businesses selling false IDs online to large gangs to terrorist groups, online ID theft has become a rich source of revenue. CIFAS has estimated that “identity fraud accounts for a criminal cashflow of £10m per day”, which is the sort of fodder that alarmist tabloids love to feed on. It did, however, add the rider that “there are difficulties in accurately measuring the impact and extent of fraud in the UK in general”. Still, “there is a proven link to terrorism”, Roberts claims. “Take 9/11 for instance; that was funded in part through fraudulent

Holding your bank details on your PC could leave them open to opportunistic net fraudsters.



The Inland Revenue's online self-assessment is designed to combat online fraud through secure servers.

"Web crime might seem easy to track, but the nature of the internet makes it difficult"



Credit card-readers have been developed to boost wary consumers' confidence while shopping online.

charities and ID theft. It's not a big jump for these organisations to turn to online crime." Terrorism isn't the only blot on the online landscape, either. "The three biggest operators in terms of ID theft are terrorism, people trafficking and paedophilia, and they operate on a completely different scale to the small-time criminal operations."

It's no stretch to see how hundreds of thousands of pounds can be raised with little more than a few hours of clandestine work. A

recent case involved an employee walking into the server room at his office, downloading a customer database onto a removable drive and selling the contents online. While we can't mention the name of the business or the employee, it's stunning in its audacity. The business wasn't lax in a way that others aren't, but was merely a victim of someone who, with the right motivation, knowledge and opportunity, saw a chance to make a small fortune in a matter of a few

minutes. After revealing in a chatroom that he had this database and was willing to sell it to the highest bidder, he arranged with a prospective buyer to hand over three sets of customer details as a trial. All three were checked out by the buyer who, satisfied, set up payment. Again, we've been asked not to print exactly how many customer records were stolen in the database, or how much they were sold for, but the employee – now ex-employee, as he was charged

successfully and prosecuted – made more than 10 times his annual salary.

GONE PHISHING

IDs are sold on a smaller scale, too, of course. A site that we're also unable to name due to ongoing police investigations will sell you a falsified driving license or passport, for instance. Combining your photo with somebody else's ID – it's a quick and easy way for an enterprising soul to make a quick buck and is a real threat to security. One victim of ID theft only found out he'd been victimised after booking his first foreign holiday. After completing the application for his first passport, he was understandably shocked to learn that he had one already; a criminal had gathered enough information about him to apply for and receive a real UK passport in his name. All that was different was his address and photo, both of which had been changed to suit the thief.

While it might seem as though this kind of online crime would be easy to track down and close by law enforcement agencies, the nature of the internet makes it very difficult. Although transactions are conducted through the site, the server itself is located off-shore in international waters and, consequently, falls outside of the jurisdiction of UK law. In addition, there's an easily detected paper trail leading through several countries across the globe and an

Your robotic ostrich could be at risk

If there's a way a fake ID can save you money, odds are someone's in on it



Character assassination

Numerous phishing trojans have been used in China to steal MMORPG players' identities in order to sell off their virtual character's prized possessions and make cold, hard cash. Weapons and other artefacts are transferred to the thief's account, who then goes on to sell the valuable items, some of which fetch £500 or more.



Benefit cheats

The HM Revenue & Customs' online portal for pensions and benefits was shut down by the HMRC on December 1st 2005 after it was discovered that criminals were making multiple applications for benefits using false identities. Shockingly, only a small percentage of all applications were being checked for authenticity.



Congestion blocked

The £8 congestion charge that car owners must pay when driving into London is motivation enough for some. Frequent cases of fraud involving the congestion charge have been logged as unscrupulous drivers steal the number plates from another person's car and affixing them to their own before heading into the capital.

■ even more circuitous route for the site's traffic.

Another contributing factor is that UK law is, at present, ill-suited to tackling online crime and ID theft in particular. Instances like the employee mentioned earlier are likely to draw no more than a jail sentence of a couple of years. "There is a new bill being worked on to crack down on fraud because the current laws aren't tough enough" comments Owen Roberts from CPP. "In most cases the maximum sentence is likely to be two years, even though you might make hundreds of thousands of pounds." As for the falsified IDs, there's a fine line between a fake ID and a replica ID; the latter, often used in plays and TV shows, aren't illegal and, therefore, not punishable by law. Claim that you're offering replicas to the movie production industry, therefore, and a business can wriggle out of a tight spot.

It's also surprisingly difficult to prosecute phishing cases due to another loophole. The new Fraud Bill (currently in the House of Lords) looks to close this and should have a significant impact on the practice which, many experts believe, has yet to peak. We spoke to Detective Chief Superintendent Sharon Lemon, head of the National Hi-Tech

"It's surprisingly difficult to prosecute phishing cases because of legal loopholes"

Crime Unit about it, and she was positive about the changes. "Most frauds, apart from certain complicated financial deceptions, are currently prosecuted under section 15 of the Theft Act of 1968, which covers 'Obtaining property by deception' or section 16, 'Obtaining pecuniary advantage by deception.'" Consequently, if someone obtains an individual's online bank log-on and password and uses it to steal money from their account, they'll be prosecuted under section 16. "Even if the phisher gets the passwords and only tries to drain the bank account, then they've attempted to break section 16 and can be prosecuted for that attempt, even if they're thwarted by bank security", continues the Detective Chief

Superintendent. "But – and this is the loophole – until they try to use the passwords, they haven't attempted to obtain a pecuniary advantage and potentially can't be prosecuted." The new Fraud Bill, which can be read at tinyurl.com/8qjpt, will provide law enforcement agencies with greater powers and the ability to grant harsher sentences. "It criminalises dishonestly making a false or misleading representation – lying, basically – with the intent of making

a gain thereby. A phishing site is one such false or misleading representation and the phisher that intends to drain your bank account sooner or later will be prosecutable as soon as the site goes up."

LESSONS AND LILOS

The new Fraud Bill is but one piece of the puzzle facing legislators and law enforcement, and the problem of online ID theft isn't going to be beaten by any one measure. According to the Office of National Statistics, currently only 55% of the UK's households have web access so there's no lack of future quarry for criminals. APACS (the UK payments association) estimates that half of all 16 to 24-year-olds don't even know what phishing is. "The more law enforcement focuses on ID theft, the better", offers Kevin Hogan of Symantec. As for the public, "education is more important than anything else. As good as an

antivirus program is at catching Trojans and trying to prevent phishing, it's only as effective as the person using the computer. In some ways it'll become easier to avoid online ID theft because we'll begin to see the difference between good and bad adware and spyware – well, there's no such thing as 'good' adware, but you know what I mean – as they become more distinct. I think we'll see more transparency in firms that have, until now, been pretty shady in their operations.

As legislation becomes harsher, it'll push them into coming clean."

There's a lot that can be done by the companies whose hardware and software you use, too. "A lot of companies work on the basis of 'security through obfuscation'. They implement closed systems and keep the code and technology they use in their products to themselves. What they should be doing is opening it, enabling experts to view it and for other organisations to learn from and contribute to it. It's a fallacy to think that closed devices are safer." A lesson for Microsoft, perhaps, which is notorious for keeping code under wraps and comes under almost constant criticism for the seemingly un-ending holes and flaws that are discovered in its operating system and internet browser. In the end, though, it seems as though online ID theft will always be with us in one form or

another. "It's similar to the anti-virus battle, really, in that there are always new threats evolving in response to the security changes that are implemented," concludes CPP's Owen Roberts. "There's a phrase I always use to describe fighting fraud that's equally applicable to ID theft," he hints. "It's like trying to stand on a lilo; it's always there but keeps moving around." An addendum to that

analogy, then, from PCF – as long as you keep your wits about you, you should be able to stay on top of that lilo at least most of the time. PCF

All that glitters

Online payment services make life easy for potential criminals

The ease and simplicity of payment on the internet has contributed to the rise in online ID theft by organised crime. It's easy to move large amounts of money around the world while avoiding the usual banking channels. It's instantaneous, can be extremely difficult to trace, and as the payment services are facilitators rather than financial institutions, they hold fewer liabilities to customers. E-Gold, for example, while not breaking the law itself is often abused by criminals as you can open an account for free and there's no credit or ID check required to be able to use it. Payment clears immediately, no matter how large the amount of money or which country you've signed up from. eBay and PayPal have also received criticism in some sectors for similar reasons. Pay by credit card and you've got a fall-back option in the shape of the credit card bank's insurance.



For more evidence of phishing, check out Over To You on page 162.

Going, going, gone...

It's one of the most popular sites on the internet, but is it safe? **Tim De Vile** reveals the latest set of scams to hit eBay



We remember when selling your old tat online involved throwing a

few words on a page, hitting Submit and waiting for the cheque to arrive, as excited overseas buyers threw handfuls of Euros and international money orders into envelopes with no thought as to whether our lack of feedback meant we couldn't be trusted. And from our experience, that worked just fine. Cheques cleared, smiles all around, brown paper packages tied up with string.

If you're now staring at this page in disbelief, it's most likely because you've started using eBay and its ilk since our carefree antics

"It has never been easier for the new eBay user to part with his or her valuable assets and get absolutely nothing in return"

of the late-Nineties. Things are very different now. In the decade since conception, Pierre Omidyar's online trading post has become a household name, and as the auction site's popularity has increased, so has the opportunity for criminals to exploit its users. In reciprocation, security has been strengthened, and strict guidelines for trading on the site have been established – and yet, despite these incremental improvements, it has never been easier for the new eBay user to part with his or her valuable assets and receive nothing in return.

TEA LEAF

At the end of this year, the National Consumers' League reported that 42% of complaints it received regarding legitimate internet scams

were concerning online auctions – the number one complaint by consumers, representing an average loss of over \$1,000 per victim. However, eBay removed the ability to directly report to the NCL via its homepage in 2003, and the League estimates that if this functionality was still advertised, the number of fraud complaints would represent a disconcerting 81% of all reported internet scams. eBay itself has finally admitted its accounts are being heavily targeted by fraudsters, but the company is careful to mention that this is due in no small part to the auction site's users ignoring explicit warnings. Caveat venditor and emptor.

Here, then, is a detailed look at two of the most common online

auction scams that are doing the rounds, and how to spot them to ensure you don't get duped.

TRICKS OF THE TRADE

In Lagos, auctions are big business, yet there's little to suggest that many of the city's residents have any interest in parting with money in order to obtain items. For any of you planning to sell your expensive electronic items such as mobile phones, digital cameras and laptops, chances are that you will have to re-list at least once due to this scam, and will be just as frustrated as we are when a buyer informs you that they would like you to ship to Nigeria.

The scammer's account is obvious from the outset – zero feedback, the random name seemingly derived from a heavy fist

to the keyboard. The emails stick to a tried-and-tested format – like the infamous '419 scam', the wording is always slightly tweaked, yet still achingly obvious. The basic premise is as follows: a would-be scammer introduces themselves as a British citizen with a relative who currently resides in the vicinity of Lagos, Nigeria. They cheerily wish you and your family well, ask how you wish to be paid, and then inform you they'll even throw in a little extra dosh to cut out the middle man – by sending it to their relative.

If you accept, the scammer constructs a 'receipt' email, littering



it with the logos of your chosen payment method, and filling in the blanks with the details you supplied. This is where variance in skill is obvious – we've seen extremely realistic, spoof-addressed emails that look identical to PayPal's receipts, and then those that are badly spelt, illegible text-based emails from 'Paypal Wordpay' (Worldpay, if anything, surely?). The email firmly states that the money will be deposited into your account as soon as a tracking number has been provided – meaning, of course, that you've already wished your item a safe journey southward. At this point, all communication ceases, no money appears, and a little shop just north of Ikeja gets a new

PAYMENT METHODS

Make sure you're not conned by using one of these safe sites

>> Paypal

URL www.paypal.com

PROS Secure, as the service is owned by eBay. Both parties have to register a credit card or bank account, making it harder for scammers to sign up. Easy to refund in case of a dispute.

CONS Fees are percentage-based and can be unnecessarily large – some sellers attempt to reclaim some or all of PayPal's costs by adding a surcharge to the final amount.

>> Western Union and Moneygram

URL www.westernunion.com

PROS None

CONS Neither insured nor secure, contrary to what the scammers will tell you. Both companies provide the safe transfer of money to loved ones overseas, and clearly warn their users not to pay anyone they don't know and trust. If you don't love 'em, don't pay 'em. No friend, no send. You get the idea.

>> Personal cheque, postal order or banker's draft

URL N/A

PROS Infallible once cleared, with no extra fees. For a long time, the only way to pay in the UK.

CONS Time-consuming. Not recommended as a totally secure method of payment. Hard to refund.

>> Escrow

URL www.escrow.com

PROS eBay's official, secure third party, recommended for very high value auctions. Escrow works as a middle-man, inspecting both tender and goods.

CONS Very expensive, only available in US dollars.

>> Cash on collection

PROS Mainly used for large, unshippable items such as cars and beds. Buyers can check the item matches the description before buying, and sellers get cash in hand.

CONS We haven't heard of any eBay-related murders, but we would recommend getting to know the other person in the transaction a little before setting to their eerie house on the moors.



Great for sending £10 to a friend overseas, but not safe for eBay.

Closing down the eBay cheats

PCFormat talks to the owner of www.fraudtracking.com



identified. In November last year we started investigating username input by members of our site. The results have since exceeded our expected worst-

"We've seen a constant increase in fraud on eBay over the years. It used to be mainly individuals, but this year a number of organised types of scams were

case scenario – we expected to report a few hundred usernames a week, but nothing more. Instead, we rapidly went from reporting a few hundred usernames each day to around 1,000 per day just before Christmas.

In only the first two months since we started our investigations, we've identified over one-hundred-and-thirty-seven thousand fraudulent auctions on eBay, with a total value of well over sixteen million pounds – and that's just the tip of the iceberg. Actual losses are

impossible to determine, as a lot of fraud goes unreported, and eBay doesn't exactly publicise that kind of sensitive information.

The key to reducing online fraud is educating users. Most of the fraud we see is easily identified and avoided, but only if you know what to look for. FraudTracking.com aims to provide warnings of potential risk to as many people as possible. An organised response is the only effective weapon against organised fraud."

In addition to its window display. Such scams rely on ignorance of eBay's modus operandi. For example, Paypal's Quickstart Guide confirms that there is no system in place through which a user can place money in account for deposit on release of a tracking number. By appearing to be seasoned traders by indisputably stated instructions on how to conduct 'business', scammers prey on those new to eBay and its numerous policies.

BUYER BEWARE

Sadly, there is currently little users can do to stop their items being won by unscrupulous bidders. You won't lose your item, but you'll still have to relist it and apply for a refund of listing fees. One option is to require immediate payment on Buy It Now items – this option is an example of the positive integration created when eBay acquired Paypal – the auction can't be ended until

"There is nothing users can do to stop their items being won by unscrupulous bidders"

eBay has detected that a financial transaction has taken place. Of course, any honest buyer who doesn't hold a credit card is unable to purchase your item, and there's always the issue of Paypal's percentage-based fees to think about, especially when selling expensive goods.

It's not just a problem when selling, too. New buyers are similarly at risk, again mainly when looking for high-end electronic items. Search for any new mobile phone or digital camera and you'll find listings that state something along the lines of "contact me at acr213@aol.com, do not contact me through eBay as I will not receive the email!" in attention-grabbing type. By leading you out of



Before logging in, always check for the padlock, indicating a secure connection for financial transactions.

eBay's sight, the thief ensures he will preserve a high feedback rating, and eBay will be none the wiser.

An easy way to tell if you're dealing with a scammer is to look at the account history, and what sort of items have been sold previously. This scam usually relies on 'phished' eBay accounts to work (see the Top Five Scams boxout), and quite often, the rightful user won't have been trading this sort of item before – be very wary when a seller goes from flogging packs of multi-coloured paperclips for the last three years to bulk-selling 23"

Apple cinema displays. And be especially wary if the seller's previous listings happen to be written in another language.

A quick email to any of the advertised email addresses will get a reply stating some extremely reasonable prices, and, most importantly – notifying you of the requirement to pay via Western Union's money transfer service. The fact that eBay has banned the use of Western Union's service is irrelevant – again, the scam relies on simple ignorance of protocol. Those who choose to ignore these warnings in the blind hope of receiving their item will now make their way to the nearest Western Union paypoint, only to find themselves down in the pocket with



The bulk-lot listings ringed in red were removed by eBay's fraud team within minutes of taking this screenshot.

no prospect of seeing that brand new Sony Vaio shipped by "UPS at the seller's expense".

These listings are quickly reported by eBay's vigilant user base, although official action is far from immediate, with the listing often removed within a day or so. In the time that the listing survives it may be viewed by two thousand users, and if even one percent is taken in by the scam, that's £5,600 or so in the criminal's pocket. Recently, scammers have been exploiting this delay by using 1-day auctions, which often end before eBay's fraud teams get a look in. This is another giveaway – true sellers prefer long auctions, as this often means a higher profit.

EBAY FIGHTS BACK

It's been interesting recently to see vigilante members with usernames like 'die_you_scammer!' and 'don't-bid-its-fake' working together to push the highest bid on counterfeit auctions much higher than the advertised item's retail value in an (often successful) attempt to stop inexperienced users getting taken for a ride – providing, of course, that such users note the name of the seller before accepting the offer.

For those who can't be saved, it's a hard lesson to learn, and one that could be prevented if every new member took five minutes to read eBay's detailed rules on safe trading. Whether you sign up to make or save money, take a good look through eBay's fraud pages first, and although you'll find limited help amongst the somewhat cliquey forums, there's often a sob story or two to learn from. These are, of course, heavily outweighed by the success stories, and as long as you follow the rules and remember that under all the corporate glitz, eBay is still the online free ads column it started out as, you'll find buying and selling a very rewarding – and safe – experience. **PCF**



PCF wagers 99% of eBayers wouldn't be fooled by this laughable ruse.



Invitations to trade off-site are free from all of eBay's anti-fraud measures.

TOP FIVE CURRENT EBAY SCAMS

Keep your eyes peeled for these...

Phishing

As simple as it is effective. An official-looking email states that your account will be terminated in a number of days unless you log in. A link takes you to what looks like the official site, but what is in fact an email form that sends your username and password to the thief. eBay and Paypal will never ask for your details via email, or require you to login immediately. Any such emails should be deleted, no matter how realistic they look.

Fake payment emails

Messages sent you after a scammer has 'won' your item. The more realistic they are, the more likely you are to be caught out. Another trick is to inform you that you'll receive payment on receipt of a tracking number, by which time your parcel is halfway across the Atlantic. Never send an item before logging in to Paypal via www.paypal.com and confirming that the correct amount of money is in your account.

Direct offers

"Contact me at acr213@aol.com! Great prices!" Scammers use Phished accounts to lure users into private transactions behind eBay's radar, asking for payment to be sent via non-bank, point-to-point transfer services such as Western Union and Moneygram. See the 'How To Pay' boxout, and remember, if it seems too good to be true, it probably is.

Fake feedback

Using multiple accounts to boost their feedback, scammers create the 'perfect account', so flawless that humbled buyers rush to bathe in its majesty. Always check the feedback – if you see the same user more than once, you know something's up. To avoid this flaw, die-hard scammers have even been known to spend a year or so selling small, insignificant items such as cheap jewellery or toys, collecting a feedback rating Mother Teresa would be proud of, before quickly auctioning off £10,000 worth of nonexistent plasma TVs.

Vague auction titles

Famously, the wonderful story of the Limited Edition Crystal Xbox box. No, that's not a typo, but the unfortunate man who offered over £100 for what he thought was a rare games console seemed to think it was, until a nicely printed but ultimately empty cardboard cube arrived on his doorstep. This has been repeated a few times recently in the run up to the Xbox 360's launch. Technically, the buyer was at fault for not reading every last detail of the transaction, but it's an important lesson – always read the label.

Brute Force Rendering

Silly name, great technology. Fog-et fogging, these unlimited view distances are partially made possible by Splash Damage's awesome MegaTexturing.

Damage REPORT

The Strogg are invading, and they want your innards for breakfast: Splash Damage is creating the fight of your life. **James Carey** reports from the front line

Dynamic terrain

Explosions leave craters you can then use as cover, most objects are physicalised so you can blow boulders into a canyon to block it (see the top gate of this base) or just amuse yourself by scattering barrels with your rotorwash.

Air support

Players can request supply drops, delivered by air. The massive Magog chopper here is dropping off some AA rockets while the Quad bike below will have been paraded via Cargo plane.

Tiny troops

Though maps are actually similar in scale to *Wolf: ET* they feel much larger because everything is open and visible. These guys are hardly crowded.

Deployable defences

Several Units on Both sides can deploy may types of structure. Artillery, missile silos, AA guns, Medic stations etc.

No one would have believed in the first years of the 21st Century that mankind's destruction was being planned from an unassuming office just behind Bromley train station in Kent. Splash Damage was nominated for a BAFTA for *Wolfenstein: Enemy Territory* (not to mention the PCF Game of the Year Award in 2003), a game which still hovers around the third most played slot for online shooters and transformed the fledgling modders-turned-devs into some seriously hot property for Activision. With *Enemy Territory: Quake Wars*, Paul Wedgwood's UK studio has had the financial backing, the talent and the passion to produce a game that

blew PCFormat away recently, and earns its *Enemy Territory* franchise richly deserved top billing.

Wedgwood himself is a man positively bubbling over with barely contained excitement for *ETQW* and his job in general. In his own words, he formed Splash Damage "for the express purpose of making a living out of doing the things we loved" and the hangover from that mod-making passion is still evident throughout the company. "We now have around 30 members from 16 different countries" he says, and it's interesting that he still calls them 'members' rather than employees, as if they're still part of the community that came together in

2001 to create mods for *Quake III*. In many ways they are, but now they're getting paid for it. They're keeping those modding ties alive too. "We try to recruit exclusively from the online amateur community," Wedgwood says, "Mod community artists often have greater exposure to modern toolsets such as *Max*, *Maya*, *LightWave* and *Zbrush*, because they're not tied to their employer's preferred app. Mod community level designers are often more familiar with new game engines – they can start playing with them the moment the game is released, while professional developers may have to wait until their current project is done before



Amphibious transport can still be used even if the wheels have been blown off.



Vehicles can be repaired after sustaining some damage, we do mean some...

they can try new tech out. Mod programmers are driven to discover what they can squeeze out of every new engine. In the commercial sector, programmers tend to fall into conventional specialties – scripting, AI, networking, physics and so on – and as a result can be less curious and experimental."

WORK ETHIC

Splash Damage is nothing if not experimental. *ETQW* isn't so much pushing the envelope as tearing it up into little bits and setting fire to them, stamp and all, in front of the Post Office clerk. "We're not afraid of complexity" Wedgwood asserts as he guides *PCFormat* into a demo room at Splash Damage HQ. A fact which becomes increasingly obvious over the next few hours as Paul rattles through a flurry of features,

demonstrating revolutionary ideas in an almost cursory fashion as he struggles to get everything he and his team have been working on for years in to the limited time we have at the studio. This openness to experimentation doesn't mean the team is afraid to cut out the stuff that doesn't work though.

Wedgwood's learnt from his modding days that you can't be precious about things that may have taken you months to craft, but simply don't work when gamers get them on the servers. Splash Damage's ethos is one of development by play. The team starts with a clear design of what it's trying to achieve, throws in a host of other ideas, then play with them until it works out what's fun.

At this stage (just past First Playable at the time of writing) Wedgwood is remarkably candid and casual about the project. Many design elements

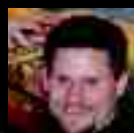
are still up in the air, but the team is determined to keep tweaking until it's got the game it wants. The bulk of *ETQW* is already in place, so the team has the

time to get everything just right. After all, Splash Damage has really nailed the technological challenges.

Much has been made of MegaTexture, a method Splash Damage has developed in conjunction with id and John Carmack, and demonstrates for the

player's point of view everything is outstandingly detailed, but from the hardware's point of view only the immediately surrounding area is being worked on.

The concept of using Level of Detail technology to enhance performance extends to *ETQW*'s



"We formed Splash Damage for the express purpose of doing what we loved"

PAUL WEDGWOOD MD, Splash Damage

first time in *ETQW*. It works by treating the entire map as one texture, a 6GB piece of source art, rather than a bunch of tiled textures. Sounds just daunting, but Wedgwood mentions the figure of only 8MB of video RAM being used for textures during play. That means the rest of the memory can be used elsewhere, for effects like the spectacular physics, which we'll talk about later. MegaTexture has effectively created a Level of Detail setting for textures like you'd normally get with 3D models, a kind of super-mapping, where from the

approach to networking too. Splash Damage has created 'LoD for networking', which removes unnecessary data from the flow of information between client, server and fellow client. For example, the client running on your machine doesn't need to know how many grenades the Strogg advancing towards you is carrying until you can see them on his belt, or he throws one. As a matter of fact, the server doesn't need that information until then either. Apply that method to everything in the game and it frees up massive resources for use in other areas.

Games like the Battlefield series may have made the vehicular combat sub-genre their own, but despite ragdoll nods to proper physics they don't work as gravity-influenced worlds. *ETQW* is different. Like Garry's Mod for *HL2*, a wheel works in *ETQW* because accurate physics is modeling the effects of rotation, acceleration and motive force pushing the tyre over the ground. A thruster propels something into the air because force is applied to the ground. On the surface, that sounds like a minor and incidental difference, but it's hugely significant. It's a result of the world being created first, or rather the rules that govern it, and then the





Above: Vehicle interiors are extremely detailed thanks to Splash Damage's cunning work with shaders.
Right: Determine class by sight.

detail being placed within that world. By its very nature that means you dictate what's possible rather than a game mechanic. The drift you hold as you tear around a corner in a jeep hasn't been coded, you just invented it; the strafing move you pull off in a Hornet hover-flyer, shutting your engines down to coast silently sideways before opening fire, is a move you created by experimenting within the limits of the in-game physics.

CREATING THE WORLD

These rules also allow Splash Damage to attempt things that would be unthinkable if it had to hand-code the whole environment. For example, in *ETQW* you can blow the wheel off of a vehicle, and it will keep moving, grinding the axle away the way you'd expect a real jeep to. To hand-code the potential outcomes of such a situation would be prohibitively time-consuming for such a relatively minor feature, but in *ETQW* such experimentation is possible because the world works.

Wedgwood demonstrates the deeper 'reality' of the world by pointing out the lighting. He walks his soldier up to a tree and crouches by it for cover. Switching to third-person view it becomes clear that the GDF troop is still quite visible because the he's in direct sunlight, but he then moves around the tree to the shady side and the concealment is far greater. Because



it's possible to set a day/night cycle in *ETQW*, the lighting of a map will change from game to game. Because of the deployable structures and changing terrain there's the potential to use the lighting as a tool.

Put simply, the world of *ETQW* is an impressively believable place, and not just thanks to physics and totally dynamic lighting, but because it improves the way the game plays. Because when you've got a realistic world, you want to bring it to life. "We looked at the battles from WWII games and really wanted to get that same feeling of history into *Quake Wars*" Wedgwood continues. Splash Damage wants you to feel like you're defending the Earth from the invading Strogg, so each mission is comprised of a set of objectives that gradually push a front line of combat across the map. You have to establish bridges to allow tanks across into the next zone, take out artillery to stop infantry being pummeled in a bottlenecked

canyon, and so on. Creating a narrative for each gaming session that sticks in the memory as an event, not just a free-for-all.

WALK THIS WAY

Part of that game's appeal lies in the fact that the two opposing armies are very different. We don't just mean the shallow differences between two opposite types of tank or two types of machine gun, but fundamentally different armies. This is an asymmetrical war set before both *Quake II* and *Quake IV*, chronicling a future Strogg invasion of Earth. The Human Global Defence Force is totally out-teched by the Strogg and is fighting a guarding action, fortifying positions with player-positioned deployable turrets



The Anansi Hover Copter is a formidable gunship. Mastering the flight mechanics in Advanced mode is tough, but worth it.

THE GLOBAL DEFENCE FORCE

Humanity's last hope

It's only 2060 so we're still pretty low-tech. Explosive munitions, combustion engines, copters and tanks are our only defence against the Strogg. Troops need ammo supplies and medical attention, vehicles need to be repaired by hand. It's an uphill fight. But a lot better than Stroggification.

TROOPS INCLUDE...

>> SOLDIER

Keeping to the design ethic of visual representation over HUD info, Soldiers have a choice of weapons and will see those weapons about their person in the field. A pistol is drawn from its holster, a grenade is taken from the belt, and so on.

>> ENGINEERS/FIELD OPS

The workhorses of the GDF, placing deployable structures on the battlefield. Field Ops call in airstrikes and barrages, designating targets with a helmet-mounted laser that draws a bead across the battlefield, guiding missiles home.

>> MEDICS AND RANGERS

Medics are medics, even in 2060. Rangers are the Sam Fishers of the GDF. Sniper rifles, hacking tools to crack Strogg deployables and remote cameras to spy on the enemy from afar.

VEHICLES INCLUDE:

>> TITAN TANK

ETQW doesn't use clipping bridges over rough terrain, so wheeled vehicles can get stuck. The physics-enabled tracks on a Titan allow it to cross terrain a wheeled vehicle can't.

>> ANANSI HOVER COPTER

Like an Apache gunship but with added jet thrusters for level flight. Like all vehicles in *ETQW* you can switch between 'newbie' controls which stabilize the copter automatically, and Advanced controls that let you have fun with physics...

>> MAGOG HEAVY LIFTER/ JOTUN CARGO PLANE

Jotuns drop equipment, troops and light-vehicles into combat. Players can request various drops like Quad bikes and ammunition. The massive Magog copters do heavy lifting, delivering the structures ordered by Engineers and moving heavier vehicles around.

"It's an asymmetrical war. We're a contemporary military force and the Strogg have us badly outgunned"

THE STROGG

Taking that techno-fetish a little too far...

The Strogg aren't invading for the real estate – they want your body. They use Stroyent to heal and fuel their cyborg bodies, power their vehicles and also as ammunition in their weapons. They make the Stroyent from your squishy insides, and they make your outsides into more Strogg.

TROOPS INCLUDE:

>> TANKS

Your basic hulking soldier, with a variety of Stroyent-powered weapons. Interestingly, they also carry a combat drone to deploy and control remotely.

>> CONSTRUCTORS AND OPPRESSORS

Constructors repair and deploy all the major Strogg structures. They also have a drone which flies around repairing things for them automatically, actively seeking out damaged kit. Oppressors can call in artillery.

>> INFILTRATORS

The most terrifying Strogg on the field. Infiltrators can infect GDF, using stun grenades to paralyse first then Stroggify them with injections. They 'posses' the GDF corpse and can remotely control it as a spy.

>> MEDITEKS

The Meditek dishes out Stroyent, for healing and rearming the Strogg on the battlefield. They can also infect GDF, turning a dead body into a one-off spawn point. Downed Strogg can 'jump' into.

VEHICLES INCLUDE

>> ICARUS HOVERPACK

The Strogg favour rapid assault. The Icarus Hoverpack is the perfect for dropping single units into the thick of it.

>> GOLIATH HEAVY WALKER

These giant, walking gun platforms are slow but solid. A GDF Titan Tank can easily outmanoeuvre one, but they're deadly when crewed by an organised gunner/driver team.

>> HORNET FLYER

These use gravity repulsion to push themselves around, making them agile. As with the Anasi, mastering the Advanced controls opens up a world of spectacular moves.



The Strogg power their weapons with Stroyent, made from your innards.

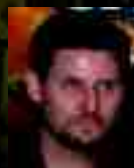


and fighting defensively, striking when on the offensive for optimum impact. The Strogg are on a relentless, aggressive assault, harvesting humans to turn them into more Strogg or the Stroyent they use as both fuel and ammo.

Everything about the two sides reflects this fundamental difference. Breathtaking animation has the GDF scurrying about, staying hidden (draw your knife and you skulk even lower than the usual crouched position – yet another way Splash Damage makes you think about how to use cover) while the Strogg stride about arrogantly. Seeing even a basic Strogg infantryman bear down on you is a frightening experience. "Both humans and Strogg are basically bipedal" Wedgwood explains, "so how do you differentiate between them at a distance? Do you give them a big red tag that says 'bad guy' on it?"

No. We're trying to minimise the reliance on a HUD and maximise the way the physical

Above: Rapid deployment typifies the Strogg assault. Right: All Strogg vehicles are designed for the offensive. Like this animalistic ramming machine, the Hog.



PAUL WEDGWOOD MD, Splash Damage

"Viewpoint constraints should only be there by design, not because of hardware limitations"

gameworld gives you information." Playing as a Strogg, you move differently; when you get hit, your screen buzzes with static, not a red blur of pain.

SIDE ORDERS

Both sides need direction though, so ETQW uses dynamic 'Solo Assignment Orders' (SAOs) as well as the overall objectives to keep the battle orchestrated. Splash Damage doesn't want you to rely on a good commander for a good game. In a perfect world, everyone would play as a team, but outside clan matches Splash Damage recognises this isn't the norm. Instead, the different classes are asked to work as you'd expect

them to. If your playing a GDF scout, spotting a column of Strogg vehicles through your binos will pass a message on to the Field Ops, so they can co-ordinate artillery or air-strikes. The message is delivered to specific Field Ops, based on their proximity and rank. So, a GDF medic will receive a message when teammates go down, sticking an icon on his map and a countdown until they're unrecoverable. This means every unit always has something to do.

When *Enemy Territory: Quake Wars* arrives later this year we fully expect it to exceed the success of *Wolf ET* both in terms of critical acclaim and popularity. It's easily one of the most ambitious shooters PCF has ever seen but unusually for games of such great ambition, it's all working, already, and the team still has the best part of a year left to perfect the game. With the kind of enthusiasm Splash Damage displays, we can only imagine what the finished version of *Enemy Territory* will be like, but one thing's for certain, PCF will be playing. PCF



The hi-res model is textured then applied to the lo-res final.

SIX THINGS TO DO WITH A USB KEY

Is putting a memory stick to its intended use simply too boring for you? Mike Channell goes experimental with his flash drive...

The PCFormat office is swimming with USB keys. We practically have to wade to our desks in the morning, and are picking 128MB flash drives out of our hair until mid-afternoon. There are more small, pocket-friendly plastic devices crunching underfoot than we could ever hope to fill. Not ones to be wasteful, we've decided that for the good of the environment, our souls, Buddha and kittens everywhere, we must find some other way to employ

the little devices. After all, companies churn these things out at an alarming rate and if we don't put them to good use, the icecaps could conceivably be replaced with a swirling mass of solid-state memory.

Of course, different sticks suit different tasks. The plasticky variety may work for propping up a wobbly table, or as a toy for a small child, but robust devices, like PNY's chunky Attaché Outdoor, are perfect for improvisation and experimentation beyond the pale.


EXERCISING

This is more like it, we don't get enough exercise because we can't bear to be away from our electronics for even a moment. This provides the perfect way to combine our technophilia with a method of combating the muscle wastage we suffer from sitting on our behinds all day. Squash is our game of choice and we found that the memory stick left our racquet at a reasonable pace and with a satisfying ping. It then came to an abrupt halt against the wall. Definitely not the longest game of squash we've ever played. Perhaps tennis or badminton may be the answer? We'll get back to you on this one... probably. **Physical storage**

We nearly caught an abandoned shopping trolley, but it got away.

FISHING

Ah, the tranquillity of sitting by the riverside watching your extremities turn blue and waiting for a nibble. The fact of the matter is, if you're fishing, you're going to spend most of your time looking at a small float bobbing on the surface of the water. Why not have something that looks snazzy if you have to fix your gaze on it for an eye-crusting four-hour session? We hooked up this rubberised wonder and cast our line, eagerly awaiting our first bite. We aren't sure if it was the USB stick that scared the fish away, but by the end of it all, the only thing we'd caught was a nasty case of pins and needles and a lifelong aversion to maggots. **Up the creek**



We may have found the reason why squash balls are spherical.

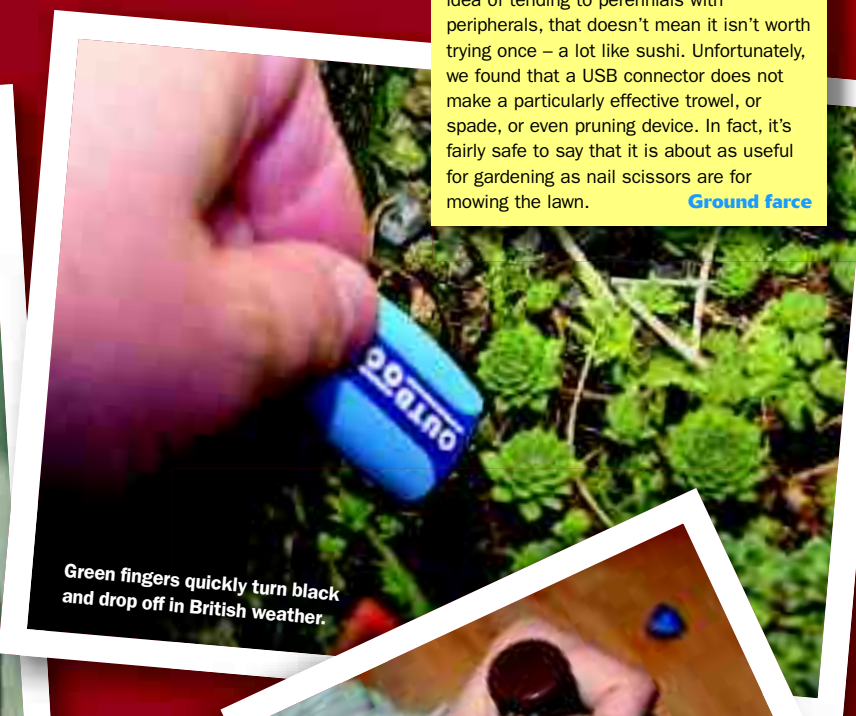
"For the good of the environment we must find some other way to employ these little devices"

3

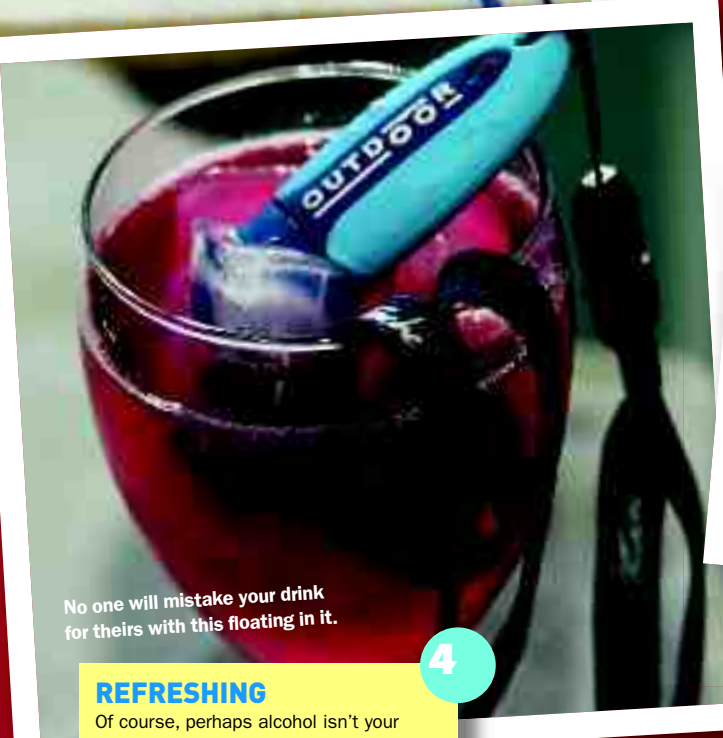
GARDENING

Fresh air, eh? The less we have of it, the less we miss it. This is the reason why green-fingered antics have never particularly appealed before. To be perfectly honest, we've never been great fans of anything that might lead to another garden makeover programme, but that seems beside the point. While we're not entirely sold on the idea of tending to perennials with peripherals, that doesn't mean it isn't worth trying once – a lot like sushi. Unfortunately, we found that a USB connector does not make a particularly effective trowel, or spade, or even pruning device. In fact, it's fairly safe to say that it is about as useful for gardening as nail scissors are for mowing the lawn.

Ground farce



Green fingers quickly turn black and drop off in British weather.



No one will mistake your drink for theirs with this floating in it.

4

REFRESHING

Of course, perhaps alcohol isn't your thing. Perhaps you prefer a cool glass of acid-laced, sugary enamel disintegration fluid to wash down your carrots. Fizzy drinks require ice though, if they are to truly refresh, and normal ice-cubes are, well, normal ice-cubes. How about decorating your party beverages with frozen USB keys? Then your guests will have a metallic tasting drink, plus a free gift to take home with them afterwards. Your dinner parties will be the talk of the town and your artful ice-cubes will become the biggest party trend since swapping car keys.

Ice cool

COOKING

Where better to utilise the humble storage medium than in the kitchen? This is perfect for providing the vital nourishment we need to survive those long gaming sessions and also adding to our fairly spartan collection of utensils. Our culinary skills generally stretch to sticking a pizza in the oven, but we aren't so feeble that we need help unwrapping it. No, instead we will augment our night-vision by skilfully peeling a carrot with the flat edge of the USB port. See how the edge glides over the rough vegetable skin, revealing beautiful, edible, orangey flesh underneath. Beta carotene has never been so much fun.

Veget-able

5



Pop the cap and feed the serpent inside.

6

DRINKING

Like everyone else, we enjoy the odd drink, preferably a cool bottle of beer, but we aren't alcoholic enough to always be within reach of that most simple of devices: a bottle opener. Fearful of our precious teeth, we also aren't about to take the fang-shattering option of popping the cap off with a lower canine. Luckily with careful balancing of your USB key and a firm grip, you should be able to get enough leverage to force the top clear, but then again, perhaps you won't. The effort required by this method of opening may actually be a viable answer to the binge drinking phenomenon. We'll get on the blower to our friends in government right away.

Capped rate

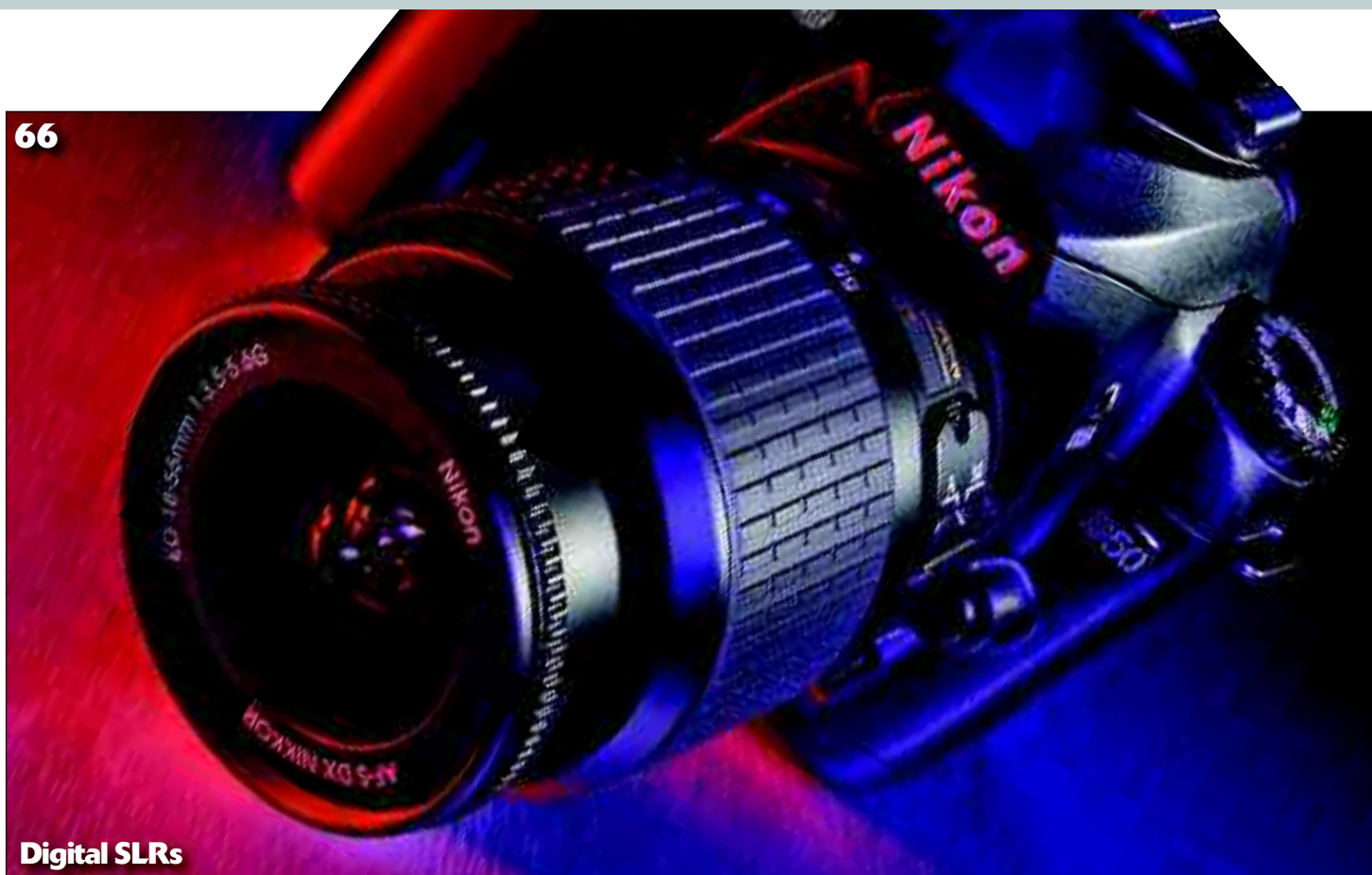
CONCLUSION

Well, after a hard day's degradation of our hard-earned journalistic reputation, we've come to the conclusion that yes, if you so wish, you can employ a USB stick in a myriad of interesting ways. Amazingly, our rugged little USB stick withstood all of this non-scientific experimentation, and still worked as intended when we finally relented and plugged it in. **PCF**

reviews

All the latest games, gear and apps

66



Digital SLRs

Our scoring system

0-19% Unusable or astoundingly rubbish
20-49% Largely not worth spending money on
50-69% Some decent features but uninspiring
70-79% Accomplished without the must-have factor
80-89% Outstanding. Awarded Top Gear or High Score
90+ Exceptional. A PCFormat Gold Award winner

Our key promises

1. PCF has the most thorough reviews

We've been reviewing kit and games for 14 years. With over 8,500 reviews written, we have the most talented, dedicated and authoritative teams in the business.

2. Integrity is paramount

We never trade pages for exclusives, or review games not signed off as finished by the publisher. Where we've looked at reference hardware, we'll make that clear in the review.

3. The PCFormat Gold Award

Only when a piece of equipment or game exceeds our expectations in terms of innovation, excellence and value for money does it get one of these coveted honours.

4. High Score/Top Gear

It's a misconception that only 90%+ is an essential purchase. Anything scoring 80% or higher is festooned with one of these, making it one of the month's most highly recommended.

5. We want to know what you think

We are PC fans writing for PC fans, so please share your thoughts on new stuff in our forum: <http://forum.pcformat.co.uk>



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Tycoon City New York

PCFormat Experts



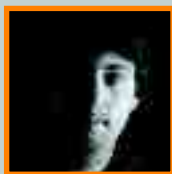
KIERON GILLEN
Squid-based terrorist ferrago *Rainbow 6* got a textbook Gillen grillin' this issue. See if he got out alive over on p104.

MOST WANTED
More concise tactics



MIKE CHANNELL
Empire Earth 2's Machiavellian bent has left a strange glint in the eye of our Michael. Find out why on p96.

MOST WANTED
Dominion over us all



RICHARD COBBETT
Multi-tasking undead expert Richard racked his brains playing *Stubbs* (p102) and getting to grips with *eDoc* on p108.

MOST WANTED
A fedora



ALAN DEXTER
Evesham's Mini PC (p73) and the gaming mobo Supertest (p132) kept Alan out of trouble this issue.

MOST WANTED
Even *more* mobos



JIM ROSSIGNOL
Robot-fancier Jim's latest findings from the sleek, futuristic end of the internet are available for all to see on p31.

MOST WANTED
A time machine



MIKE ABOLINS
Security conscious Mike helmed our ID theft feature on p40. – a must-read for anyone who's connected to the net.

MOST WANTED
A new email address

SUBSCRIBE NOW!
Turn to page 152 and never miss an issue of PCFormat again!



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ATI X1900 XTX



98

Commandos Strike Force



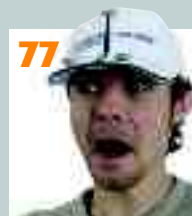
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Quest A620

75

ixtreme Gold S1919

THIS MONTH

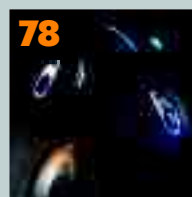


77

» TRACK IR 4 PRO

Total immersion?

What horrors could possibly get our normally unflappable Games Editor James this spooked? Well, if you've ever wanted to climb right inside your monitor and feel like you're sitting in the cockpit of an F16, the Track IR could be for you. Check out our review and find out if you really want this to happen to your face.

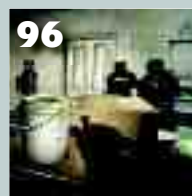


78

» GAMING MICE

Laser guided rodents

With the advent of professional gaming and the increasingly large amounts of money involved, a single mouse-twitch could be the difference between a fortune and a fragging. We test the latest precision laser gaming mice and find out which one gets the cheese.

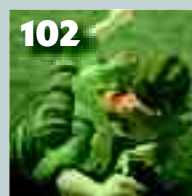


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» SWAT 4

The Stetchkov Syndicate

If breaking down doors and gassing civilians is your raison d'être then you'll be pleased to note that the new expansion for last year's excellent *SWAT 4* has finally hit our screens. Does it still have the tension and police brutality? Check out our review to find out.



102

» STUBBS THE ZOMBIE

Love the taste of brain?

Yes, you too can now become one of those shuffling, grey-matter-munching individuals with dubious personal hygiene and exposed internal organs. Causing a little controversy in the US, it's engendered havoc in the PCF office this month, with cannibalism now running rampant...

PLUS

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- Infinite Kakuro

HIGH-END GRAPHICS

ATI Radeon X1900 XTX

X1800 XT was late, and its Crossfire rendering tech barely showed up at all. Jeremy Laird wonders whether ATI can turn it round in 2006

Price £470 Manufacturer ATI Web www.ati.com

Here's a toughie: how many transistors can you afford, and how should you spend 'em? That's the crucial conundrum companies producing chips of almost any type must get to grips with. In the realm of 3D GPUs it's a matter of life and death. And with its latest wonderchip ATI has come up with some rather interesting, some would say downright risky, answers.

Known internally at ATI's Toronto HQ as R580, this fancy new GPU lies at the heart of the Radeon X1900 XTX video chipset. That's right, less than four months after the Canadian firm wheeled out the Radeon X1800 XT, aka R520, it's released yet another essentially all-new flagship chipset. But don't get the wrong idea. ATI hasn't cranked up the graphics industry's already frantic product refresh rate to an utterly insane four-month cycle. In simple terms, R580 puts ATI back on track. The Radeon X1800 XT was originally pencilled in for spring 2005. It eventually stumbled onto the market looking sheepish and mumbling

something about manufacturing problems last November.

MONEY MATTERS

Of course, ATI would dearly love to milk the moolah from the X1800 for a while longer. But that would mean allowing NVIDIA to keep on spanking it raw with the beefy (if incredibly rare) GeForce 7800 GTX 512MB, the current high end graphics champ. Enter, therefore, the Radeon X1900 XTX. As we've already hinted, this is no exercise in clockspeed bumping and memory frequency ramping. Because ATI has added no less than 63 million transistors to R520's already industry-leading 321 million total. But nor is it simply a leaf out of the NVIDIA book of more-the-merrier in terms of pixel pipelines. Because R580, just like R520, remains a 16 pixel pipeline chip. It still sports 16 texture units and eight vertex processors. As for clockspeeds for both the GPU core and video memory, the X1900 XTX chipset also represents very little progress. 625MHz has become 650MHz for the GPU core, while the memory speed has crept up almost imperceptibly to 1.55GHz. The X1800 XT's GDDR3 chips run at 1.5GHz.

So, how can R580 compete with the 7800's 24 pipeline pixel-pummelling power? And what's so damned interesting about those extra 60-odd million transistors. Funnily enough, the answer lies with ATI's latest mid range offering, the X1600. That card set technophile tongues wagging late last year thanks to its modest four pipeline design and a focus on pixel shader power. By tripling the number of number-crunching shader ALUs available to each pixel pipeline, ATI bestowed the X1600 with the pixel shading punch of a conventional 12-pipe chip despite the on-paper four-pipe spec. And so it is with R580. Each and every one of its 16 pixel pipelines has triple the pixel shading units compared with R520. Add in that 25MHz frequency boost and the result is in excess of three

HOW WE TESTED

The ultimate performance exam

The latest, most demanding games at the highest, most demanding settings. That's the simple story of how we ran these powerful 3D boards through their paces.

The detailed spiel includes running benchmarks at extremely high resolutions of up to 2,048x1,536 to guarantee our results reflect 3D rendering performance and are not affected by CPU and other common system limitations.

We also performed three runs at each resolution, first with no anti-aliasing and no anisotropic filtering, followed by a run with

aniso added and then another with both anti-aliasing and aniso enabled. Consequently, we have isolated the performance hit those eye-candy additions generate on the cards we've tested.

As for the games tested, we included a selection of firm favourites and bleeding-edge newbies. We also performed an HDR rendering assessment using the latest patch for *FarCry*. And for your reading pleasure, we've included some *3DMark06* scores. We're not convinced this latest *3DMark* is any more relevant than before. So, treat those results as harmless fun.

**"Less than four months on
from the X1800, ATI has
wheeled out another
market-leading chipset"**



times the pixel shading poke of its immediate predecessor. From what is essentially a mid-life refresh, that's nothing less than monstrous.

However, that tripling of shader power doesn't mean R580 will deliver triple the performance of R520. Vertex and texture processing poke, for instance, remain near enough constant, as does memory bandwidth. In fact, most of the Radeon X1900 XT's feature set, both good and bad, is carried over effectively unchanged from the X1800. On the upside, that means the ability to blend and anti-alias detailed, high-precision textures without the need for painfully slow workarounds (and hence



The X1900 expands ATI's reach in the high-end GPU market.

Yet another new champion

R580 is faster, but does it make any difference to games?

Another month, another flagship video card, so we'll forgive you if cynicism has set in. After all, it was only November last year that ATI launched the X1800 XT, a card that beat the 7800 GTX by a small margin. Likewise, NVIDIA's 7800 GTX 512MB is merely a clockspeed bump over its predecessor. So, is the X1900 worth getting worried about? Yup, because it doesn't just score a few on-paper victories. The performance gap is big enough to allow a more detailed gaming experience, particularly in cutting-edge, shader intensive titles.

"There's filtering here that puts NVIDIA's GeForce 7 series' rather nasty default setting to shame"

to apply anti-aliasing to all current HDR rendering implementations, a claim no NVIDIA GPU can presently make). Additionally, it means there's angle-independent anisotropic filtering that puts NVIDIA's rather nasty shimmering default texture filtering on GeForce 7 series cards to shame.

TECHNICAL MARVEL

R580 also benefits from ATI's arguably more modern effort at producing a Shader Model 3 architecture. Whether it's dynamic flow control or instruction branching in the pixel shader, ATI reckons the X1000 family is Shader Model 3 done right. And of course, the intelligent, programmable ringbus memory controller which made its debut on R520 also makes an appearance. The X1900 XT may be lumbered with slower video memory and less raw GPU-to-memory bandwidth



A giant among coolers. It's a noisy design, but the performance is worth it.

compared with the 7800 GTX 512MB, but if ATI is to be believed, that deficit is more than cancelled out by the ringbus' reduced latency and superior internal bandwidth. Finally, the X1900 has the same Avivo display technology, including 10-bit colour precision throughout and a pair of dual link DVI ports. In fact, the only obvious omission is support for HDCP encryption, a requirement for both HD-DVD and Blu-ray movie playback. However, ATI says that's on the way.

In fact, if we do have one genuine grumble regarding the X1900's carry-over kit, it's the actual PCB design and the chunky cooling solution. Just like the X1800 XT, it's a noisy beast which gives the impression of a GPU clocked to the absolute limit. By comparison, the 7800 is the epitome of grace under pressure during heavy rendering duties.

Do not, however, despair if all that's a bit of a brain-bender to take in. The spiel on the X1900 boils down to this simple statement: ATI is taking a punt on pixel shaders. It reckons pixel shader throughput will become the single most important factor in determining GPU performance in the

near future. By end of '06, ATI estimates, virtually 100% of games will use pixel shaders. What's more, pixel shader instructions are moving away from texture reading operations to arithmetic pixel processing. And that, according to ATI's theory, means transistors are better spent adding shader ALUs à la R580 than full pixel pipes complete with texture sampling units as per NVIDIA's high end chips.

INFORMATION OVERLOAD

But if that's how ATI sees the future of PC graphics rendering, how does the X1900 XT stack up today? Well, it's faster than the GeForce 7800 GTX 512MB in 51 out of 52 benchmark tests we performed. And that makes it the fastest single graphics card on the planet. So far, so predictable. Anything less would represent a serious failure for ATI. After all, the real fight will come from NVIDIA's next GPU, likely to be known as the GeForce 7900 and expected to appear by the Spring.

But on close inspection, our results not only prove ATI's pixel shader punt is probably the right move; they also go a long way to justifying

Benchmarking the beast

After seemingly endless rounds of tests, how did ATI's new big-hitter fare?



UP CLOSE The X1900 laid bare

It's got connections

That's a pair of dual-link DVI sockets. If you can afford the three grand asking price, therefore, this card can feed two Dell 30-inch LCD panels running at 2,560 x 1,600. Stick that in your single 1,280 x 800 pipe and smoke it, Xbox 360!

Fast and affordable

This X1900 XTX board boasts a core frequency of 650MHz and memory clocked at 1.55GHz. However, the X1900 XT is only slightly slower at 625MHz and 1.45GHz respectively, and it's £50 cheaper, to boot.

Getting it right

The Radeon X1900 XTX conclusively proves that ATI's R5XX family is no GeForce FX-alike debacle. This card is comfortably the fastest in the world – and the more demanding the rendering scenario, the bigger its performance advantage.

No high-def yet

If high-definition video is your bag, you'll probably want to hold off buying an X1900 for now. Support for HDCP encryption doesn't arrive until later this year.

This isn't over yet...

At launch, ATI was unable to supply Crossfire mastercards, so the X1900 Crossfire vs 7800 GTX 512MB SLI contest will have to wait.

the transistors ATI has buried in that fancy ringbus memory controller.

The benefit of the latter can be clearly seen by the manner in which the X1900 pulls away from NVIDIA's finest when anti-aliasing is enabled. ATI's lead in *F.E.A.R.*, for instance, is around 10 per cent with anti-aliasing disabled. Flick that AA switch however, and the gap leaps to over 40 per cent. It's a similar story for many of our tests. It even allows the X1900 to snatch victory in id's newest OpenGL-powered rendering masterpiece, *Quake IV*, which is based on the historically NVIDIA-friendly *Doom 3* engine. With anti-aliasing disabled the GeForce 7800 claws out a small lead. But turn it on and the X1900 squeaks a tight but significant win. As for the impact of those extra 32 pixel shading units, there's proof aplenty. The X1900 XTX hammers its predecessor across the board, and since it shares a similar spec, barring those extra shader units, they're the only explanation for the 20 to 40% advantage it delivers in most of our benchmarks. Likewise, it's surely significant that the X1900 scores its

largest victories over the 7800 in the very latest, shader-intensive titles such as *X3: Reunion* and *F.E.A.R.*

THE FINAL ANALYSIS

An impressive performance, then. But are there any chinks in the armour? As far as a pure 3D rendering goes, just the one. The X1900's performance in our *Far Cry* HDR rendering test is cause for concern. It only just manages to top the 7800. The good old X1800 isn't far behind, either. Could it be that performance is being held back by ATI's decision to stick with just 16 texture sampling units? In truth, we won't know until HDR becomes a much more widely implemented game engine feature. But given widespread evangelising of HDR by most game developers, that's going to happen sooner rather than later.

However, more problematic, for this XTX board, at least, is the existence of a cheaper XT variant. Clocked only 25MHz slower, but available for around

£50 less, the XT is simply better value, and the all-in wonder version represents good value, too.

This is no mere paper launch (plentiful retail examples of the X1900 XTX are in stock), so we'll allow ATI its moment of glory. After a long run of missed launch windows and phantom products in 2005, the Canadians are back in business. **PCF**

There's no news yet of an AGP version, but we suspect something is in the works.

gold
PCFormat

Manufacturing technology
90nm, low-k, built by TSMC

Transistor count 384 million

Core clockspeed 625MHz

Memory 512MB, 1.55GHz (effective)
GDDR3, 256-bit interface

Pixel pipelines 16

Vertex units 8

DirectX support 9.0c, Shader Model 3.0

Interface PCI Express

Outputs 2x DVI (dual link), S-Video

Form factor Dual slot, single six-pin power socket

Other Crossfire compatible

90% **PCF says...** "Without any doubt whatsoever, this is the fastest single 3D card in town."

TESTED!

The contestants in this month's hard-fought D-SLR showdown were...

Nikon D50, 18-55mm £449

The baby brother of Nikon's famed D70, the D50 offers the same 6.1Mp resolution, as well as direct access to Nikon's superlative range of lenses.

Konica Minolta Dynax 5D, 18-70mm £479

With the same maximum image size as the Nikon D50, the Dynax 5D boasts a wider sensitivity range and more features. It's also the only model here with an anti-shake system.

Pentax *ist DL, 18-55mm £539

In spite of a rich heritage, Pentax is often seen as a poor relation when it comes to D-SLRs. The new *ist aims to make amends.

Canon EOS 350D, 18-55mm £569

The 350D offers a larger 8Mp CMOS sensor and claims to be more versatile, while retaining the 350D's lens.

Olympus E-500, 14-55mm £579

If you thought that Olympus was flogging a dead horse with D-SLR, the new E-500 might make you think again, with some fine lenses and automatic sensor cleaning.

Serious Snapper

Bring added creativity and flair to any photograph. **Matthew Richards** unleashes the latest digital SLRs

Compared with dinky digital compact cameras that can slip into a pocket, D-SLRs are, quite literally, a real handful. Even the term 'single lens reflex' is a phrase that everybody knows but one that requires a bit of thought to get your head around. Basically, the relatively bulky design of any SLR camera incorporates a pentaprism and mirror system that enables you to compose shots by looking through the lens, rather than through a separate viewfinder, so what you see really is what you get.

The latest generation of budget D-SLRs offer a surprisingly painless transition from straightforward, point-and-shoot photography, as you embark on the learning curve to more creative exploits. In their simplest mode of operation, most D-SLRs offer a fully automatic setting, which takes care of focus, exposure and flash, guaranteeing top quality results in almost any shooting conditions. For a leg-up, there are normally a range of 'scene modes', which tailor not only exposure settings but can also add appropriate levels of sharpening, contrast, saturation and the like, making them powerful assets for portrait, landscape, sports and night-time photography, and leaving their film-based forebears standing.

The sheer size of a D-SLR, and the way it enables you to get a firm and solid grip on the camera, makes it much easier to control camera shake - the ruination of many a low-lit photograph. This makes shooting with a D-SLR much steadier than with compact cameras, while some models, like the Konica

Minolta Dimage 5D go one step further, with anti-shake technology built into the body of the camera itself.

Other fringe benefits of budget D-SLR cameras over their compact cousins include their ability to mount a 'pop-up' flash further from the lens, reducing the possibility of red-eye in shots. Most also feature a red-eye reduction flash mode, to further cut down on this unwanted attribute, while a built-in hotshoe enables you to use a completely separate, and more powerful flash gun.

FEEL THE POWER

While many advanced digital compact cameras offer a wide range of controls, you can't beat a D-SLR for sheer versatility. Not only are aperture-priority and shutter-priority modes generally easier to access and to use, but the payback from getting to grips with these modes are much higher.

Take the sheer amount of control you get over depth of field, for example. By using a wide aperture settings and going to the telephoto end of the zoom range on the 'kit lens' provided with the camera, you can take portraits with your subject's face in sharp focus, while throwing the background of the scene into a soft blur, emphasising the main subject, simplifying the overall scene and getting the kind of results that are virtually impossible on a standard digital compact camera. And for yet more versatility, you can add different lenses and other accessories to your D-SLR outfit, so that it can grow with you as you learn your craft and discover the delights of 'proper' digital photography.

HOW WE TESTED

No sunset shots here...

Any D-SLR should be able to return attractive shots on a sunny day, but we haven't had any of those for a while. Instead, we started indoors, with gloomy winter light seeping in at the window. These dull conditions, lacking in contrast, offer an excellent test for the abilities of autofocus systems and we tested each camera, with its kit lens, with focus-assist lamps turned off as well as in normal mode.

Exposure is perhaps the most important factor in any photograph and we tested the metering systems of the

cameras in a wide range of situations.

Throughout our range of test shots, we checked for accurate colour rendition (largely a function of the auto white balance feature) for skin tones, natural landscape colours and highly saturated, artificial colours. We also kept an eye on digital image noise, especially in clear blue skies and in the dark areas of night scenes. Overall picture quality was checked for brightness, contrast, saturation, colour rendition, overall sharpness and the absence of unwanted image attributes.

Photography Amanda Thomas

Nikon D50, 18-55mm

£449

Manufacturer Nikon Web www.nikon.co.uk

95%

gold
PCFormat

Whether or not a camera is a thing of beauty is a moot point, because what you really want is beautiful images. That's exactly what the Nikon D50 delivers. Unfeasibly cheap at £389 for the body, we went for the kit which includes the excellent new Nikkor AF-S DX 18-55mm f/3.5-5.6 lens, for a modest £449. The autofocus on this lens is lightning fast and practically silent, using Nikon's Silent Wave Motor technology. The matching 55-200mm f/4.5-5.6 telephoto zoom lens is unmissable at £165.

The D50 makes the most of the sharpness and quality of its lenses, with a superb metering system. Nikon's vaunted 3D Color Matrix Metering II system, which compares each scene to an onboard database built on actual photographs, was unerring, while a new version of Nikon's five-point autofocus system had a knack of getting things right every time.

The Nikon D70 remains one of our all-time favourite cameras but, whereas images can look a little flat and lifeless straight off the D70, the tonal curves of the D50 have been subtly remapped, so that even shots taken in gloomy conditions look more vivid. The D50 has only one control wheel, which sends you scurrying to the menu to adjust aperture and shutter speed in metered manual exposure mode. It also feeds on SD rather than CF cards, though this could be a bonus if you're trading up from a compact. For sheer quality and ease of use, it's top of the class.



Konica Minolta Dynax 5D 18-70mm **90%** **£479**

Manufacturer Konica Minolta **Web** www.konicaminoltaeurope.com

Right now, you'll find Minolta's D-SLR for sale at the bargainous £479 (including its generous 4x zoom 18-70mm f/3.5-5.6 lens). Give it a couple of weeks and the price may yet fall lower – after 150-odd years, Konica Minolta has announced its pulling out of the camera business. It's a shame, as this camera is the most feature rich in its class.

King of the list is the built-in anti-shake system.

Whereas other companies offer this kind of facility built into their top-end (very expensive) lenses, the Dynax has a unique 'CCD-Shift' anti-shake built into the 5D's body. That means that you get a system for reducing camera shake in low lighting conditions regardless of what lens you're using.

The anti-shake system worked well in our tests, enabling us to shoot around two stops slower at any of the kit lens' focal lengths, before hitting any problems.

There's more to the 5D than its anti-shake system, though. A sensitivity range of 100 to 3200 ISO adds to the camera's flexibility throughout almost any lighting conditions. The exposure system is equally good, with a range of colour modes on offer, catering to situations where you might want natural, vivid or even monochrome options. Further, High Key and Low Key settings are available for retaining information about highlights or lowlights. Get this before it disappears, and buy safely in the knowledge that Sony has already announced it will be taking over all technical support.



Pentax *ist DL, 18-55mm **£539** **70%** **Manufacturer** Pentax **Web** www.pentax.co.uk

This is a tricky one. Pentax hasn't enjoyed the same level of success as the likes of Canon and Nikon with its D-SLR cameras, so it looks like it's 'revamped' the *ist DS and turned it into a DL version with a lower price tag. Even so, it can't live with the Nikon D50 or Dimage 5D in the cost stakes. Principle differences between this model and the DS is that the new DL version foregoes the delights of Pentax's 11-point autofocus system, in favour of a more humble, three-area AF, although on the plus side, you get a larger, 2.5-inch LCD.

Like the D50, the *ist DL uses SecureDigital cards rather than the more common CompactFlash variety, in D-SLR terms at least. The Pentax also bucks the D-SLR trend by using four standard AA batteries (or two CR-V3 cells) instead of a rechargeable Li-ion battery pack. This can be disappointing because, while we got over 2,000 photos from a single charge with the Nikon D50, the *ist DL ran out of juice after just 200 similar shots.

Controls are simple but, on the whole, effective, with a sensible dial and button layout on the top and rear of the camera. A basic 'Auto Picture' mode offers easy access to SLR photography for beginners, and there's a decent range of scene modes and manual settings available as well. The kit lens, which is an 18-55mm f/3.5-5.6 model, is adequate rather than exciting but, in our tests, it proved reasonably sharp apart from when shooting wide open, when some images became noticeably soft.



Olympus E-500, 14-55mm**£569**Manufacturer Canon Web www.canon.co.uk**80%**

Along with the EOS 350D, the new Olympus E-500 boasts an 8Mp image sensor, rather than the more run of the mill 6Mp option. However, the sensor size is smaller and we experienced much more image noise at higher ISO settings.

The camera is based on Olympus's Four Thirds system, with an aspect ratio of 4x3, giving a maximum image size of 3,264x2,448 pixels. Olympus claims that the Four Thirds system enables lenses to be more compact and produced at reduced cost. Sure enough, the high £549 selling price of the E-500 body gets much more reasonable when you add the impressively high quality 14-55mm kit lens for just an extra £30. Better still, a kit that includes this lens as well as the 40-150mm telephoto zoom lens costs just £629. The E-500 has a 2x crop factor, so these lenses are equivalent to 28-110mm and 80-300mm respectively.

For overall picture quality, the E-500 is very impressive, with good metering options that include facilities to spot meter on highlight and lowlight areas of a shot. There's also a wide range of colour and contrast controls, so you can fine-tune your image before you take it, rather than at the post-processing stage. This is just as well, because the RAW format shooting mode proved very slow in our tests, requiring shooting intervals of over 10 seconds.

A unique trick offered by the E-500 is a Supersonic Wave Filter which cleans the sensor every time the camera is switched on. This means a relatively slow start-up time of around two seconds but should ensure your photos are free of annoying dots.



top
gear
PCFormat

**Canon EOS 350D,
18-55mm****£569**Manufacturer Canon Web www.canon.co.uk**87%**

Upping the ante from the original EOS 300D, the newer 350D ushers in a 8Mp CMOS sensor, along with Canon's excellent DIGIC II image processing engine. The 350D is also smaller than the 300D, which is a mixed blessing as it can feel a little cramped for larger handed photographers.

Metering performance was extremely consistent in our tests, throughout a wide range of shooting conditions and the seven-point autofocus system was excellent. Another plus point for the combination of the 350D's CMOS sensor (the only camera in the group to have this rather than a CCD), along with DIGIC II, was that image noise was very low throughout the sensitivity range, right from 100 ISO up to 1600 ISO.

On the down side, the 1.8-inch LCD lacks brightness as well as sheer size. Battery life is also only moderate, returning about 600 shots between charges. The biggest disappointment, however, comes in the shape of the kit lens. As well as only offering a lacklustre zoom range at the price, of just 18-55mm, our test sample lacked sharpness and the autofocus was quite slow and noisy in operation. Of course, Canon does offer a huge range of more exotic lenses that you can go for, but at a much higher price.

Many digital photography aficionados rate the EOS 350D right up there alongside sliced bread but, based on the three review samples we've seen over the last year, we're yet to be convinced.



top
gear
PCFormat

Conclusion

Most of these cameras are versatile enough for any user

The first thing that many people look for when buying a digital camera is how many megapixels it has. In real terms, however, there's little difference between the size of a 6Mp or an 8Mp image, so we'd put that at the bottom of our priority list when choosing one of the cameras here. More vital issues surround the optical quality of a camera's lens and how an image processor turns the image produced by the lens into an image, with the degrees of sharpness, colour rendition, brightness and contrast that you want.

At the most expensive end of the scale, the Olympus E-500 and Canon EOS 350D offer 8Mp sensors. However, the Canon is fitted with a CMOS sensor that offers a marked absence of digital image noise even at high sensitivity ratings, while the smaller CCD sensor in

the Olympus starts to suffer at around 400 ISO. To our minds, the Supersonic Wave Filter for cleaning the sensor in the Olympus is also a bit of a gimmick.

The Pentax DL proved disappointing in our tests, for outright image quality. It does have some of nice features, including 'natural' and vivid colour options, and a big 2.5-inch LCD but

there's nothing to recommend it over the cheapest models on test.

The Konica Minolta Dynax 5D

is new to the market and everything about it feels 'right'. An excellent range of features at the price is backed up by superb image quality and a couple of nice surprises, including a built-in anti-shake system. That said, the Nikon D50 is still our favourite. With its superb kit lens, intuitive controls, it offers stunning image quality, time after time.

"Nikon's D50 offers stunning images time after time"

Start a collection

A D-SLR body and kit lens is only the start

There's a fundamental difference between compact cameras and any D-SLR. If you're buying into a D-SLR, the camera body itself is just a starting block. As your experience grows, so should your D-SLR outfit grow with you, enabling you to broaden your horizons. To this end, all of the cameras on test come with a basic kit lens, but offer a gateway into all sorts of other lenses and accessories.

D-SLR cameras normally have a 'crop factor', also referred to as a magnification factor. Typically either 1.5x or 1.6x, you multiply the focal length of the lens by this number to get the equivalent range on a conventional 35mm film camera. So, for example, a Nikon 18-55mm zoom lens would provide an equivalent focal length range of 27-82mm. The crop factor pays dividends at the telephoto end of the zoom range. For example, a humble 70-300mm telephoto zoom lens will provide

the equivalent of 450mm or so at its longest setting.

While conventional lenses can be fitted to most D-SLR bodies, it's important to bear in mind that, compared with film cameras, digital SLRs are more prone to chromatic aberration, ghosting and flare. Third-party lens manufacturers are now offering ranges of 'designed for digital' or exclusively digital lenses which incorporate design features to maximise digital quality while often reducing the size of the lens itself.

As far as accessories go, we'd start with essentials like a tripod and flashgun, then progress to remote shutter releases or cables, a blower brush for lens and sensor cleaning and a range of filters, starting with UV haze filters for protecting your lenses. Try out Intro 2020 (www.intro2020.co.uk), the official importer for various lens and accessories.

IN DETAIL Looking for perfection in all aspects

£449

**Nikon D50,
18-55mm**

95%



£479

**KM Dynax 5D,
18-70mm**

90%



£539

**Pentax *ist DL,
18-55mm**

70%



£569

**Canon EOS
350D, 18-55mm**

87%



£579

**Olympus E-500,
14-55mm**

80%



| | Nikon D50, 18-55mm | KM Dynax 5D, 18-70mm | Pentax *ist DL, 18-55mm | Canon EOS 350D, 18-55mm | Olympus E-500, 14-55mm |
|---------------------------|------------------------------|------------------------------|----------------------------|----------------------------|------------------------------|
| IMAGE SENSOR | 6.1Mp CCD | 6.1Mp CCD | 6.1Mp CCD | 8.0Mp CMOS | 8.0Mp CCD |
| LARGEST IMAGE SIZE | 3,008 x 2,000 pixels | 3,008 x 2,000 pixels | 3,008 x 2,000 pixels | 3,456 x 2,304 pixels | 3,264 x 2,448 pixels |
| 35MM ZOOM RANGE | 27-82mm | 27-105mm | 27-82mm | 29-88mm | 28-110mm |
| EXPOSURE MODES | Auto, P, A, S, M | Auto, P, A, S, M | Auto, P, A, S, M | Auto, P, A, S, M | Auto, P, A, S, M |
| SCENE MODES | 6 | 5 | 6 | 6 | 15 |
| METERING MODES | Multi, CW, Spot | Multi, CW, Spot | Multi, CW, Spot | Eval, CW, Spot | ESP, CW, Spot, H/S Spot |
| SENSITIVITY (ISO) | 200 to 1,600 ISO | 100 to 3,200 ISO | 200 to 3,200 ISO | 100 to 1,600 ISO | 100 to 1,600 ISO |
| SHUTTER SPEEDS | 30s to 1/4,000s | 30s to 1/4,000s | 30s to 1/4,000s | 30s to 1/4,000s | 60s to 1/4,000s |
| FLASH MODES | A, M, Slow Sync, Red-eye, RC | A, M, Slow Sync, Red-eye, RC | A, M, Red-eye | A, M, X-Sync, Red-eye | A, M, Slow Sync, Red-eye, RC |
| MEDIA CARD TYPE | SecureDigital | CompactFlash | SecureDigital | CompactFlash | CompactFlash or xD |
| LCD SIZE | 2.0-inch | 2.5-inch | 2.5-inch | 1.8-inch | 2.5-inch |
| BODY DIMENSIONS | 133 x 76 x 102mm | 131 x 67 x 93mm | 125 x 67 x 93mm | 127 x 64 x 94mm | 130 x 66 x 95mm |
| BODY WEIGHT | 540g | 590g | 470g | 490g | 435g |



HEAVY-DUTY LAPTOP

Evesham Quest A620

It may have the necessary grunt, but it looks like an utter pig

Price £2,499 **Manufacturer** Evesham **Web** www.evesham.co.uk

This isn't the first laptop to darken our door with the ageing Clevo D900 chassis, and we're willing to bet it won't be the last. It seems cruel fate that the only chassis able to house this kind of desktop-replacement hardware is bulky enough to literally be the top of a desk. Further, its external PSU is so enormous that it would make an Xbox 360 blush.

POWER BRICK

This isn't a laptop that you'd want to take on your travels. It is, however, the type of laptop on which you'd want to play *Quake IV* at high resolution on. With an FX-60 processor and GeForce 7800 GTX, it pushes the limits of how much gaming power that can be crammed into a self-contained, battery-powered system.

The Quest has little trouble chewing on the latest games, and the LCD panel appears dim alongside other recent offerings. Still, it's not short of storage, with a 200GB hard drive and a dual-layer DVD writer. As you might expect this lappy runs hot at full load, and the battery life is a

measly two hours, which will restrict its appeal as a viable portable PC.

We're prepared to accept that this isn't really a mobile PC, though. It's more like an amalgam of everything you could ask for in a home PC, in a smaller box. What we aren't prepared to accept, though, is the same ugly chassis with yet another badge stuck on it. If we had our way, the D900 chassis would be forcibly retired with a large block hammer. Granted, it's certainly a performance powerhouse, but for this kind of money, you'd expect something a bit easier on the eye – not to mention the ear and the lower back.

Mike Channell

CPU AMD Athlon 64 FX-60

Memory 1GB

Storage 200GB RAID array

Optical Dual-layer DVD-RW

Screen 17-inch, 1,680x1,050

Comms LAN, wi-fi, modem

Video GeForce Go 7800 GTX

69% **PCF says...** "The price doesn't justify the limited portability."

Benchmarks and details can be found on your coverdisc

MAINSTREAM MONSTER

MSI X1600XT

ATI's mid-range graphics card finally goes commercial. But is it worth fussing over?

Price £158 **Manufacturer** MSI **Web** www.msi.com

Too pricy to masquerade as a budget card, and not enough performance to make it top-of-the-line: that's the curse of the mid-range card. And yet, it's performance-per-pounds we're concerned about in this category, and a card that hovers at £150 is attractive to many people. So, let's see if MSI's particular skew on the now commercially available X1600XT is much cop.

3D POWER

At the heart of the card is the R530 core running at 587MHz, complemented by 256MB of GDDR3 RAM, running at a very respectable 1.38GHz. Quite a bit of poke, you might think, and to be fair, in certain situations, particularly Shader Model 3 operations, it's a pretty respectable setup. This is where 3DMark06 shows its colours, as the X1600XT outshines the likes of the 6600GT in no uncertain terms – 1,776 3D marks on a 6600GT, compared with 2,310 on the X1600XT.

However, conventional games performance is a different kettle of fish. The X1600XT achieves 64 FPS in *Far Cry*, compared with the 6600GT's 66. Not such a spanking there... but present it with an OpenGL game such as *Doom 3*, and it shows its colours: 80fps

compared with the 6600 GT's 105fps. Not that 80fps is unplayable; far from it. But we've chosen the 6600GT as a comparison point as it's the closest in performance to the X1600XT. And if that's the case... well, let's just say that you can pick up a 6600GT for £96 now. That's over a third less than the X1600XT's £158. And let's not forget that you can always slot in another 6600GT for dual-card SLI power; a boost of approximately 50% in the frames per second department for your expenditure. Even then, at £192, 6600 GT's in SLI are not an awful lot more than the X1600 XT. All of which leads to a single inimitable conclusion: until this graphics card sees a serious price drop, we simply can't recommend it.

Alan Dexter

Clockspeed 587MHz

Memory speed 1.83GHz

Memory 256MB GDDR

Out 2 x DVI, 1 x S-Video

Form factor PCI-Express

3DMark05 score 5,255

3DMark06 Score 2,130

Doom 3 score 80.3 FPS

Far Cry score 64.1 FPS

64% **PCF says...** "A budget card in the midrange price-bracket. Beware!"





Is it just us, or
have we seen this
somewhere before?

A BITE OF THE APPLE

Evesham Mini PC

This is what you get when you hollow out the Mac Mini and pour in some proper, full-fat PC goodness

Price £499 **Manufacturer** Evesham **Web** www.evesham.com

Style sells. Just look at the iPod – expensive, limited, but oh so cool. Apple was responsible for similar fashion-related arm-twisting with the Mac Mini. Catching the imaginations of the less OS-fussy, the tiny footprint, underpowered specification and tasty design were yet another step towards form lording it over function. Keen to cash in on its success, Evesham has released this Mini PC, a system so visually similar to Apple's diminutive wonder, you'd be forgiven for thinking they'd ripped it off.

The dimensions are the same, although Evesham's effort does weigh 500g more, and the subtle Apple styling has been replaced by sober brushed aluminium. On the plus side, you do get Windows Media Center 2005 to play with. There's no TV card installed, mind, and adding one is tricky as there are only two USB ports; your mouse and keyboard will want those until you splash out on a USB hub (preferably powered). A 1.4GHz Celeron M can be found panting at the core of the system, with 502MB of RAM providing reasonable working space. The missing 8MB is hoodwinked by the 915GM graphics

chipset, while the 40GB hard drive shows that the magic of miniaturisation is powered by mobile hardware. It's clearly no powerhouse, but the machine has its uses... tiny media library, set-top box, or as a second machine for more work-orientated pursuits. A SYSMark 2004 score of 108 is pretty mundane.

THIS PATIENT NEEDS AIR!

Just as the Mac Mini clearly wasn't intended for gaming, so the Evesham Mini PC should be an embarrassing last pick for any gaming team. *Doom 3* is

"Another step towards form lording it over function"

intriguing at this pace – watching yet another misinformed and confusingly hidden imp bounce out only to be reduced into glowing orange dust is entertaining – but not in the intended way. Seven frames a second is not gaming, even at the lowest settings. 3DMark05 was equally scathing of the machine's gaming abilities, with a result of 192 vying for the lowest score we've ever recorded.

Costing a cool £100 more than the cheapest Mac Mini, the Evesham is almost as intriguing as its forerunner. It's affordable, it works, and it's compact. It's also quiet running. We've complained about performance, but for simple

productivity tasks it's fine. Somehow though, the lack of a stencilled Apple logo on top has more effect on you than you actually care to admit. **Alan Dexter**

Compact and bijou

The tiny form has its drawbacks



The minute form factor is welcome, but the lack of ports and expansion is troublesome for Windows MCE. There are no PS/2 connectors, putting the USB 2.0 ports in high demand. DVI-I and S-Video connectors support dual screens but a lack of digital audio support limits its media abilities.

| | |
|----------------------|--------------------------------------|
| CPU | Intel Celeron M 360 (1.4GHz) |
| RAM | 512MB DDR-2 533MHz |
| Chipset | Intel 915GM |
| Graphics | Integrated 915GM |
| Audio | Integrated stereo |
| Hard Drive | 40GB 5,400rpm |
| Optical Drive | CD-RW/DVD-ROM Combo |
| Dimensions | 165x165x50mm |
| Weight | 1.85kg |
| OS | Windows XP Media Center Edition 2005 |
| Warranty | 1 year |

76% **PCF says...** "Covetable, but the current tech isn't enough and the Mac Mini is cheaper"



FRUSTRATION INCARNATE

Sony Walkman NW-A1000

While rivals blindly rip-off the iPod's winning design, Sony treads its own path

Price £150 Manufacturer Sony Web products.sony.co.uk/sony_walkman.asp

This is simply incredible. Sony might just go down in the annals of history for this one. Never mind whether the new Walkman is an iPod-beater or not, its desktop software is possibly the most spectacular train wreck ever to be commercially released. Sony Connect Player simply does not work, in the same way that taking a bath in raw sewage does not work. Think we exaggerate? Then check out the dozens of complaints about Connect at tinyurl.com/bptrf.

IT'S A SMALL WORLD

But what of the player itself? This Microdrive unit (though a larger 20GB HDD model's also available) is a genuinely compelling design that performs only minimal lip-service to the iPod it's clearly designed to unseat. It is sexy enough to draw interested comments from passers-by who'd otherwise ignore your worthless presence, as the display is placed beneath a layer of coloured plastic, giving it a disco luminescence. Meanwhile, the GUI is simple, and endowed with a couple of pleasing gimmicks, such as automatically creating a shuffled playlist from your 100 most-listened to songs.

The overriding failure of the player, though, is the same as every previous Sony MP3 player. So we'll write it in capital letters, just to be sure. THE BUTTONS ARE TOO BLOODY SMALL. While it's doubtless not a problem for gaunt-fingered bulimia chic/complicated haircut London indie types who wouldn't be seen dead with something so common as an iPod, for Johnny Pie-and-a-Pint-Please types like us, it's a nightmare. In particular, the microscopic volume control requires a toothpick for successful operation. Against the finger-fitting wheel of the iPod Nano, or the big-but-slippery controls of the Creative Zen Micro, it's palpable that this was designed to look good first, and operate efficiently second.

Alec Meer

Capacity 6GB (around 4,000 songs)

Interface USB 2.0

Battery life 20 hours

Supported codecs MP3, ATRAC3, WMA (with firmware update)

Driverless disk mode Yes

Other colours available Pink, black, silver

66% PCF says... "With fixed software, it'd be lovely. Until then, keep away."

CASE LOGIC

NZXT Lexa

If looks could kill, we'd all be dead. Thank heavens they don't

Price £90 Manufacturer NZXT Web www.yoyotech.co.uk



There's definitely a line of acceptability which some cases cross. Have you seen the Ferrari Enzo? Ugh. About as kitsch as you can get without turning the side-window of your chassis into a lava lamp. Hmm, there's a thought. Luis!

Seriously though, pants pre-modded cases are two-a-penny these days; the market's fairly awash with tack-jobs that are all flash and no thunder. That's why it's nice when a humdinger like this comes along. The NZXT Lexa definitely leans to the tasteful side of shiny; visually appealing without being OTT, and every element of its construction smacks of thought and intelligent design.

SNAP-ON TOOLS

Inside, everything is quick-release, for simple optical and hard drive swap-outs, and that goes for PCI and graphics cards too, where they're secured to the backplate. There are three whisper-quiet 120mm fans for near-silent cooling, and even the 80mm fan in the top of the case is pretty discreet. With a complement of fat games components inside, the Lexa gives off the gentlest of whooshes; it's definitely not invasive. And the quick-release side-panel is a godsend for upgrades. If you like a little bling in

your box, you'll find a bit of LED action in the fans, as well as a tasteful digital front-panel monitor that shows you temperatures and fan speeds.

All the metalwork is thin-grade aluminium, making the whole thing nearly as light as the impressively spry Antec Lanboy (PCF179, 85%). It's a perfect LAN gaming chassis, further evidenced by the fact that you get a webbing carry-strap to lug it around with. About the only thing it's missing is a PSU, which you'll have to find yourself, but that's not uncommon with a decent chassis. We'd gladly pair the Lexa with a Hiper Type-R Modular PSU (PCF177, 90%) for shiny pleasure; the two were made for each other. In short, it's a superb case, and one that hits the sweet spot for looks, performance, features and downright neatness. Definitely a recommended buy.

Alec Meer

Cooling 3 x 120mm fans, 1 x 80mm fan

Drive bays 4 x 5.25", 4 x 3.5"

Front panel 2 x USB2.0, 1 x IEEE 1394, mic, headphones

Displays CPU/case/graphics temperature

Internal fitting Screwless

Extras Cable tidy, shoulder strap

90% PCF says... "A light, tasteful chassis that will bring much pleasure."





Packard-Bell got there first, but there will be many Viiv PCs this year.

VIIV ALIVE

ixtreme Gold S1919

Gird yourself for what offers itself as the finest digital experience of your life: Viiv has arrived

Price £900 **Manufacturer** Packard Bell **Web** www.packardbell.co.uk

The Intel marketing machine is at it again. Those fertile loins have birthed many healthy offspring, such that little Centrino scamp, and the hot headed Pentium. The latest to pop its expensive corporate-approved logo into the world is Viiv (pronounced to sound like 'five'). It's what's referred to as a 'technology platform', and spans PC architecture, home networks, entertainment devices, plus a marketing campaign to get us all to buy into it.

At the PC level, there's a base specification. All Viiv PCs must run a dual-core Intel processor of the Pentium-D, Core Duo or Extreme variety, along with a 975X/955X or 945-based motherboard, ethernet and 7.1 high-definition sound. This means that any PC bearing the Viiv logo is capable of playing the most demanding high-definition content – great for consumers.

Viiv also promises to simplify the transfer of content and services around our homes. The problem is, these features aren't in the initial version of Viiv; this being version 1.0. All the interesting Hub Connect technology isn't due till version 1.5, out later in 2006. Though Intel informs us that a software

upgrade will be available, meaning PCs running version 1.0, such as this one, won't become redundant overnight.

IT'S A-VIIV!

We've got our hands on the first Viiv PC available in the UK, which is being sold through PC World. The ixtreme S919 is, to all intents and purposes, a standard Windows XP Media Center, which just happens to have a Viiv sticker on the front. It's lucky the sticker's there actually, as otherwise, the whole Viiv experience is relegated to a few links in



Media muscle

Encoding and decoding are the priority



We're impressed by the power of the new Pentium-D 920. Thanks to the dual 2MB cache it chomped through the media encoding test in just 2m45s. Even playing a 1080i QuickTime film, the processor usage never jumped above 48 percent. But a 3DMark2005 score of 1,415 is rather a let down, and 175 in SysMark 2004 is nothing to write home about.

the Online Showcase section of the Media Center interface; not the most impressive entrance for new technology.

The highlight for us is the new .65nm Pentium-D 920 processor running at 2.8GHz on an 800MHz FSB, within its vast dual 2MB L2 cache. This helps it power through encoding tasks and smoothly play 1080i QuickTime movies without even breaking into a sweat. It's a shame the same can't be said for the graphics, as the 256MB ATI X600 really isn't up to much games-wise, struggling its way through 3DMark2005. At least a 17-inch TFT is thrown in, and for an extra £40, PC World will upgrade this to a 19-inch one, which might offset the speakers' poor performance.

Irrespective of Viiv, this is a good value Media Center. It's also quiet, thanks to a high-performance heat-pipe CPU cooler. The graphics are a letdown, but everything else you need for digital entertainment is right here. **Neil Mohr**

Viiv spec v1.0

Processor Pentium D 920 2.8GHz, 2x2MB L2 cache, 800MHz FSB

Memory 1,024MB DDR2 533

Storage 300GB SATA HDD

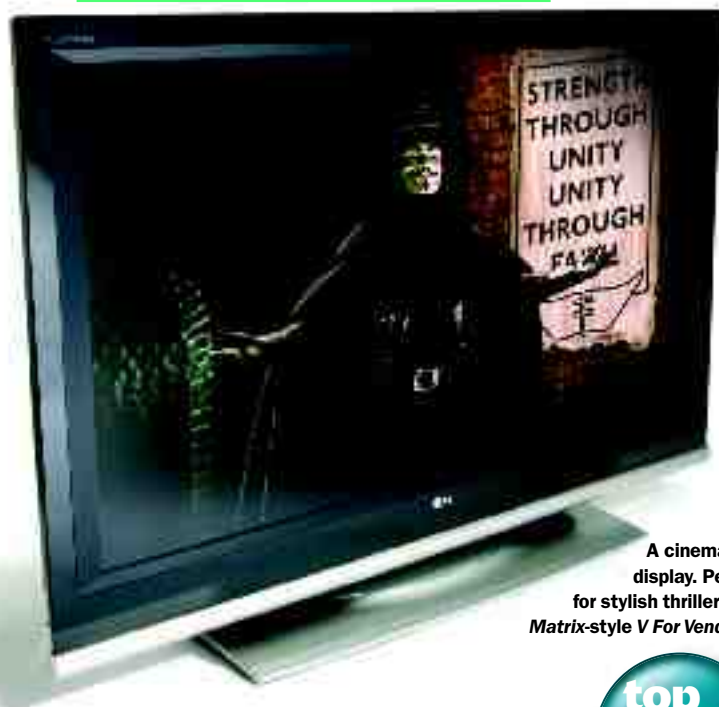
Graphics 256MB ATI Radeon x600

Monitor 17-inch TFT

Optical Multi-format dual-layer DVD-RW

Extras Analogue/DVB TV tuner, 8-in-1 memory card reader, fingerprint security keyboard, 2.0 speaker set

80% **PCF says...** "Solid, well priced and handles HD with aplomb. Gamers require more, though."



Movie image © Warner Bros. Pictures 2005

A cinema-size display. Perfect for stylish thrillers like *Matrix-style V For Vendetta*.



MONSTROUS MONITOR

LG M5500C

More monolith than monitor, the new LG 55-inch screen is the biggest one around

Price £7,490 Manufacturer LG Electronics Web www.lge.co.uk

While most of us are deciding whether to make do with a 17-inch LCD, or splash out extra on a 19-inch, LG has just dropped a 55-inch bombshell in the slab-like shape of the M5500C. It's a mighty beast of a screen and, while LG says it's the world's largest LCD computer monitor, it's less sure of this enormous peripheral's weight. Maybe 'TBC' on this spec list entry signifies that the Japanese firm's bathroom scales weren't up to the job.

If your geek radar reaches the horizons of display technology, you might be aware that Samsung unveiled an 82-inch LCD last year, and that Sharp developed a 65-inch one, however both are TV-based and lack computer inputs. The LG differs by sporting both analogue and digital computer inputs (D-Sub and DVI-D), along with component inputs and an S-Video socket. What's missing is a TV tuner; perhaps a surprise considering the native resolution.

DOTS BEFORE THE EYES

Despite its outrageous size, the M5500C has a native resolution of just 1920x1080 pixels. This just happens to be the favoured standard for high definition TV and, suitably enough, the M5500C is

compatible with the up-market 1080p (progressive) HDTV format. For a TV, great. For a monitor, not quite so good.

A humble 17-inch LCD has a native resolution of 1,280x1,024, meaning a dot pitch of 0.26mm. The minimally higher resolution of the 55-inch M5500C means a huge dot pitch of 0.63mm. Close up it's like joining the dots to make up a picture. That's fair enough really; it's designed as a 'public display' screen rather than a desktop device, but with good colour rendition, and contrast plus a 10ms response time, it would make a good focal point for a Media Center. **Matthew Richards**

Screen size 55-inch widescreen

Native resolution 1,920x1,080 pixels (HDTV-ready)

Max contrast ratio 5,501

Max brightness 500 cd/m²

Horizontal scan frequency 30-83Hz

Response time 10ms

Viewing angles (V, H) 176, 176

Video inputs 1 x analogue, 1 x digital, 2 x component video, S-video

Built-in speakers Detachable 2 x 15 watts

Weight Damn heavy but unspecified

81% PCF says... "An LCD monitor that looks better from a distance."

YOU'VE BEEN FRAMED

Brilliance Picture Player

Dull walls begone! The Brilliance DPP20S Digital Picture Player is here

Price £819 Manufacturer Fototech Web www.fototech.co.uk

At last, the office wall is complete. The Brilliance DPP20S is a meaty 20" LCD picture frame, perfect for displaying rotating slideshows of gruesome imagery in inauspicious surroundings. What better to liven up a dull day than a moving montage from an SD card full of your kid's drawings, set to the gallery music from *Take Hart*?

Well, Tony himself would cry into his cravat at the fact that, despite the MP3 functions of this unit, there's no way of playing back music at the same time as watching a picture slideshow. In fact, all you get onscreen when playing music through the tinny speakers is a frankly rubbish graphic equaliser. The remote is sluggish, the interface clunky, and it doesn't support many video playback modes at all.

DULL, DULL, DULL

Brilliance, eh? As promising as it sounds, we've learned a lesson that we should have learned from Chuck D years ago – something about hype, and the not believing thereof. The screen, in the brief moment between switching on the unit and the offending hardware kicking in, shows that it's a

1,024x768 panel. While this may sound impressive to fans of handheld video players, at this size, picture quality is disappointing, and makes virtually all your prized photos and slideshows appear dowdy. Thankfully, at least for the mildly myopic, images are more viewable from a few feet away.

While you might be better off nailing together an old laptop and a cheap LCD panel, you're unlikely to match the neat appearance of the Brilliance. You will, however, save a lot of money, and get better quality and versatility. This is a nice try, but nothing you should actually spend your money on. We recommend that you wait until the resolution is increased, and the price dropped before contemplating a purchase. **Alex Cox**

Screen size 20in

Contrast 5,001

Supported Media MPEG1, MPEG2, MPEG4, MP3, DivX5, WMA, JPEG, AVI

Screen resolution 1,024x768

Displayed resolution 800x600

Outputs Audio out

32% PCF says... "£800 worth of grainy disappointment and out of focus woe."





This tiny camera 'sees' and records the Track IR sensors' movements.

His hat it has three corners. You too could look as cool as Carey.

TECHNO FASHION

Track IR 4 Pro

The chances are you'll look like a total berk while you use this, but you'll kick ass, too

Price £101 **Manufacturer** NaturalPoint **Web** www.naturalpoint.com/trackir



There are so many gimmicky peripherals around, it's easy to overlook some real innovation when it happens. PCFormat has had more weird one-handed keyboards and 3D goggles through its door than we'd care to remember. But every now and then, something just... works.

This is the fourth iteration of NaturalPoint's head-tracking hardware. The setup essentially uses a 120FPS infrared webcam to track the movement of little reflective stickers fitted to the peak of a cap on a little lightweight bracket. The movement can then be used in, for example, a flight sim, to move your head around in-game, leaving your hands free to do other things. Because the framerate is so high the motion of the reflective stickers can be mapped perfectly, and thus the movements can be translated into a game without it jerking around or dropping frames. And it works a treat.

The system doesn't suit every game, of course. Only games that have independent head movement can make use of the system and even they have to be configured by the developer to support Track IR, but you'd be surprised

by how many games already do. All the popular flight sims and flight combat sims work, and the results are stunning.

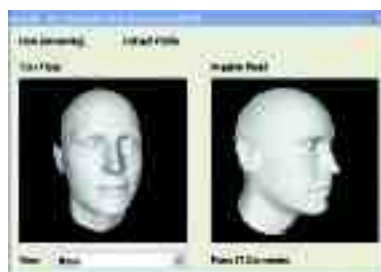
HEAD START

A growing number of racing sims support Track IR: *GT Legends*, *GTR* and *TOCA*, to name but a few. The immersion factor goes up tenfold with these titles as you look to the apex of a corner, or glance around at the pack.

The Track IR 4 system doesn't just monitor the three axes of movement though, it also triangulates exactly where

"If you play a lot of flight sims and racing games, this is for you"

Look around you
David Gray-style nodding is a bad idea



Track IR's designed to magnify your head movements, so you only have to shift your gaze slightly to significantly alter your in-game viewpoint. It's a highly customisable system and the online forum that's sprung up around it shares profiles and works on expanding Track IR's compatibility.

your head is in relation to the screen. You can tilt, twist and strafe your head sideways, zoom in and out by moving your bonce back and forth. It's really amazing how well it matches your movements. There are even some shooters beginning to use the system. *WWII Online* lets you look around the battlefield as a grunt and with the third-party apps available, you can get it working in other, non-officially supported games too. Even *Star Wars Galaxies* supports it.

If you play a lot of flight sims or racing games, the £100 investment is easily worth it. Trying to fly without the Track IR after using it for a while is like having a limb removed. But the supported games list is too small at the moment to recommend the unit to everyone. On its own merits though, the Track IR 4 Pro is a flawless piece of kit that excels at the task it's designed for. It's thoroughly niche and too expensive for our liking, but it's something no sim fan should be without.

James Carey

Capture speed 120FPS

Field of view 46°

Degrees of freedom Six (yaw, roll, pitch, zoom, rotation, height)

Dimensions 5x3x4cm (not including hat)

87%

PCF says... "Works brilliantly, but lacks compatible games, and is a bit pricey."

ROUND-UP



Cheeky squeakers

In the absence of mind control, Neil Mohr tests the next best thing – optical gaming mice

While we'd love an army of robot mice with laserbeam eyes, that'll have to remain a fevered dream for a good while yet. Still, on the bright side, the shift from LED-toting optical mice to those based around laser technology is a step towards our plans for global domination: this one has laser eyes.

As everyone knows, a bigger acronym is better, and they don't come much bigger than LASER. Anyone who attended secondary school will, of course, remember talk of something called Light Amplification by Stimulation Emission of Radiation. While they may seem gimmicky, laser mice do offer an advantage over their LED cousins, as they boast faster update speeds.

Standard optical mice can have resolutions as low as 400 DPI and scan rates of 1,000 frames per second. Laser mice crank these specifications up to 2,000 DPI and 6,000 frames per second. All these big numbers lead to smoother, more accurate mouse

movements, and if you live or die by a single mouse twitch, accuracy is all.

The design and build quality is also important, though. Having a mouse that's like gripping a lump of wood full of nails isn't at all fun. For those with twitchy finger, triggers extra buttons might be tempting and of course we have to have a smooth tilt-wheel. All rounded off with a good dollop of well crafted driver goodness.

HOW WE TESTED

There's a lot of subjectivity in testing input devices; everyone has his own little quirks, his own likes and dislikes. Hell, some of us are even freakish enough to use our left hands. So while we can't say if a mouse is going to fit your hand exactly, we can test the responsiveness, accuracy and

smoothness of its action. We'll also be assessing each mouse in deathmatch situations and general Windows tasks on a multitude of surfaces. When a mouse starts costing £50, we're going to pod and poke it to make sure the wheel or buttons aren't going to fall off and if the driver brings any extras to the mix.



Copperhead

£46

Manufacturer Razer Web www.razerzone.com

For sheer luminescence, this wins hands down. The glowing sides are non-slip, and while at first grip they can seem uncomfortable, you'll learn to use them for fingertip control. The mouse packs seven buttons but two of them are almost unusable and the wheel lacks tilt.

Technically its a 2,000 DPI laser and offers options for upping

the USB polling to 1,000Hz, the highest on test. Five custom sensitivity levels can be selected on the fly. In play the mouse movement is near perfect and the smoothness is helped by Teflon feet. For precision it rivals the Logitech, but its ambidextrous body just doesn't feel as comfortable, despite excellent build quality.

Max resolution 2,000 DPI

USB rate 1,000 reports/s

Buttons 7

Max acceleration 20g

Cable 7ft

85% PCF says... "Pretty, and exceedingly precise, but expensive. if you want perfect harmony between pocket and rocket then you can do better."

LASER mouse

£27

Manufacturer Saitek Web www.saitek.com

Offering the lowest DPI in the test of 1,200 the Saitek laser mouse is actually outclassed by some standard optical models on the market. It was also the only mouse here that had tracking problems, losing mouse position with quick movements. That in itself is enough of a turn off, but even in Windows we had precision problems on

multiple surfaces. On the plus side the build and material is good, the tilt wheel is a little clunky but the other buttons are responsive. Despite its large design the mouse works well in either hand. Overall a lack of reliable tracking simply makes it very difficult to recommend for Windows work, let alone hardcore deathmatching.

Max resolution 1,200 DPI

USB rate 125 reports/s

Buttons 5

Max acceleration N/A

Cable 5ft

50% PCF says... "Feels great in the hand – it has the same chassis as the Raptor. But the precision sucks; gaming with the Saitek laser is frustrating."

Raptor M2

£30

Manufacturer Raptor Web www.raptor-gaming.com

We were starting to think there was a glitch in the matrix, as the Raptor has an identical body as the Saitek. The comparisons thankfully end there as the internals make it a whole different mouse. While we've been trumpeting the benefits of lasers, this is an old-school LED mouse, but one that performs like a laser. At 2,400 dpi this is the

highest in the test and suffers none of the tracking problems the Saitek does. Even the tilt wheel is of better quality, and weight can be added internally with a single 10g or 20g metal block. The main flaw is the driver looks very amateur, but in its favour it does offer a macro feature. With silky smooth tracking, it's the perfect laser alternative.

Max resolution 2,400 DPI

USB rate 125 reports/s

Buttons 5

Max acceleration 20g

Cable 8ft

83% PCF says... "Comfortable in the palm, but only for right-handers. Superb precision and tracking makes it the Quake IV player's friend."



Turn over for the winner...



WINNER!

G5

Manufacturer Logitech Web www.logitech.com

£47

From the nylon-braided USB cord to the removable weights tray, every part of the G5 is beautifully crafted. This 2,000 DPI mouse offers eight sensitivity levels that can be customised and selected on the fly. The feel of the mouse is perfect, helped by the slick feet it uses.

On the underside, you'll find a removable weights cartridge; with eight slots, it enables you to add

up to 36 grams of extra weight in 1.7g or 4.5g units, finally adding some much needed inertia back to the mouse.

With a perfectly balanced tilt wheel and three well positioned additional buttons, the G5 is such a pleasure to use, no matter if you're left or right handed. Smooth movement with laser-precise detection makes for a real winner.

Max resolution 2,000 DPI

USB rate 500 reports/s

Buttons 5

Max acceleration 20g

Cable 6.5ft

94% PCF says... "It isn't cheap, but with a mouse this smooth and precise, your frags per pound will undoubtedly justify the outlay. A worthy winner."



"With well positioned buttons, the G5 is such a pleasure to use, no matter if you're left or right handed"



Pocket money pages

**SUB-£100
GOODIES
FOR THE
BARGAIN
HUNTER**



**top
gear
PCFormat**

FSP Epsilon 700W

Mondo juice for pimped-out PCs...

Price £117 Manufacturer FSP Web www.microdirect.co.uk

While the new generation of Viiv and Yonah chips are getting cooler and more efficient, established desktop models, such as the ones in most of our machines, are more power-hungry. A 3.6GHz Pentium 4 Prescott draws 80W for most tasks, and peaks at 110. Factor in a 7800GTX using another 110-ish, then SLI that card, and you're looking at a basic draw of 330W. Now add in all your other components...

Suffice to say, you wouldn't want less than 400W in a modern gaming rig, and for a bit of future-proofing, the FSP Epsilon (which also comes in a 600W configuration) is a good bet. It's also virtually silent – the huge, low-speed cooling fan is inaudible, and if the load is low while your PC is idling, it throttles itself to zero RPM. In short, it's a really good unit, and with six molexes, six SATA power connectors and a pair of six-pin plugs to power SLI sauciness, you'll not run short of expansion headroom. A bit pricey, but it can knock out quite a lot of electrons, and does it on the quiet.

Wattage 700W

Molexes Six

SATA connectors Six

PCI-E plugs Two

82% **PCF says...** "A fruity PSU with enough output for a serious SLI rig."



Q-be MP3 Player

Price £99 Manufacturer SupportPlus
Web www.intomusic.co.uk

Yep, it's an MP3 player, with a grown-up display and everything. Seriously. This diminutive drive manages to cram 1GB of storage and a display into something the size of a chavvy earring. In fact it's so tiny, the headphone jack doubles as the USB port for data transfer and charging. The joy is offset somewhat by the limitations of the screen, which makes navigating through your MP3 collection a bit of a cramped process. Ultimately, though, this is one of the smartest MP3 players around at the moment and if you can't find a pocket that this will fit in, then you probably aren't wearing any clothes.

87% **PCF says...** "Truly a great thing in a small package."



IRIScan

Price £57 Manufacturer IRIS
Web www.irislink.com

A mobile scanner? Frankly we can't think of many who'd have a need for one. We're all for the paperless office, but the paperless bus, train or hotel room? Sheer madness – especially when the results from this unit are so untidy. The text recognition software struggled with a test page (a printout from our fine magazine, no less) and the colour scanning quality (even at 1,200dpi) is nowhere near good enough to trust with your Lichfield-esque works of art. You'd probably be able to cram this into a laptop case, but it's so bulky it'd be more useful as a doorstop than a reliable, accurate document scanner...

49% **PCF says...** "Limited results. Stick with a traditional scanner."



Optical Glow Mouse

Price £13 Manufacturer Belkin
Web www.belkin.co.uk

We'll admit that this isn't the most ergonomic mouse ever made – its pear-shaped design is sure to upset the larger-handed fraternity. Also, we aren't entirely sold on the glowing concept. The colour transitions are too inconsistent to be soothing, only one of the several lights actually changes colour and you can still see the red optical light through the top when it's in use. At least if you rush out to buy the mouse on novelty value alone you won't feel too stung – this is actually a responsive little rodent, chalking up a win in the daily *Quake IV* office rumble. And isn't that the most demanding test there is? 'Nuff said.

75% **PCF says...** "Unremarkable, but perfectly accurate."



Ivory Digital Audio Player

Price £66 Manufacturer Sapphire
Web www.sapphiretech.com

If you're the one person on the planet without an MP3 player, this review is written especially for you. Don't buy this one. The interface is needlessly clunky, despite having a larger screen than the Q-be, and the buttons never quite seem to do what you expect them to. Worse, though, is the plastic that this player is hewn from. Whenever you pick it up, it feels like it's covered in a thin film of mucus, and is slippery to the touch. The voice recording is neat, but the combination of poor navigation and a shudder-inducing outer shell means we really can't recommend it.

48% **PCF says...** "Just about does the job, but feels strange."



Iomega MicroMini 8GB Drive

This drive for smaller drives is driving us potty!

Price £97 Manufacturer Iomega Web www.iomega-europe.com

This lightweight pocket drive is arguably the new standard bearer for high-capacity portable storage. With 8GB of space it's perfect for carting around larger multimedia and game-related goodies. At a LAN party, for example, mods and maps could be collected on one drive and passed round for a fast and efficient install. Alternatively, you could fit the best of your music collection in 8GB, and have a portable backup. The best thing of all, though? This svelte yet spacious drive comes in at under £100, which makes it some of the cheapest portable storage we've seen. It still seems staggering to us that you can get so much microdrive storage for such a small amount of money; after all, these things require the level of microscopic engineering that you'd more commonly find in *Star Trek*. A 2GB flash drive will set you back around the same price, and that's simply solid-state memory, which is created in unbelievable quantities these days. Whatever the reason, you won't hear any complaints from us...



Capacity 8GB

Connection USB 2.0

Dimensions 5.1x6.9x1.4cm

Manufacturer's Warranty Two years

91% PCF says... "Small, light, robust, sexy and altogether capacious."



Disgo Classic U3 Smart Drive

Price £45 Manufacturer Clever-Stuff Web www.mydisgo.com

U3 drives are coming out in their droves at the moment. Essentially, U3 technology is a wee frontend app on a flash drive, along with storage space, that lets you run programs, such as *Firefox* and *OpenOffice*, straight from the flash drive. It means you can take all your bookmarks, documents and settings with you, and leave no fingerprints of your work or browsing on any host computer you plug it into. It's a neat idea, and this Disgo unit is a neat application of the technology. It's also dead cheap – £45 for a 1GB version is pretty much a bargain in our book.

79% PCF says... "Far from pretty, but useful and capacious."



Body Glove Notebook Backpack

Price £50 Manufacturer Body Glove Web www.bodyglove.com

Robust, padded notebook rucksacks are all over the place these days, so it's nice to see one that we actually like the look of. As you'd expect from Body Glove, it's a well-padded affair, which will keep any 12" notebook safe from the rigours of travel. It even has a tough, rubbery bottom – rather like our careworn Technical Editor.

There are plenty of pockets, and the overall construction is very solid. While it's not completely waterproof, it'll repel a bit of water if you get caught in a shower. An altogether decent laptop bag, and a little more stylish than the usual fare.

82% PCF says... "A great storage option for 12-inch laptops."



Belkin USB Anywhere

Price £21 Manufacturer Belkin Web www.belkin.co.uk

This small and slightly tacky plastic box aims to put an end to the horror of running out of memory card space on digital cameras when abroad, by allowing direct USB to USB copy without the need for a PC. The problem being that the LEDs are difficult enough to see in office light, let alone blazing sunlight. Having said that, the box seems to do its job reasonably well (though there's no USB 2.0 transfer speeds here). Luckily it takes a sensible approach to copying, ensuring it will never overwrite previously copied data. If you often feel the need to shuffle files when away, it's useful.

70% PCF says... "Functional but not really an essential purchase."

Long term test

RATINGS BEYOND THE WARRANTY



Saitek Cyborg 3D USB Gold

Since picking up this stick of joy some three years back, I've never needed another. At the risk of sounding like some youngster from across the pond, there's simply no other word to use but awesome. Sorry.

It's very adjustable too; you can turn into a left-handed or right-handed joystick with the simple application of an Allen key, and the tilt and pitch of the 'top hat' control array can be altered to suit even the most picky of thumbs. The throttle is a pretty basic affair, and there's no force feedback, but that doesn't really fuss me – it's one of the most solid and robust PC peripherals I've ever owned, and when it comes to re-playing *Freespace 2* or *X-Wing VS Tie Fighter*, it's the business: responsive, sensitive and utterly implacable. It also has a whole stack of buttons on the base, so when it comes to shield management and swapping between various apocalyptic weapons, you're not caught short. A big-up for Saitek – it's a piece of my gaming history. **Al Bickham**

We want your reviews... of stillHoved old kit: al.bickham@futurenet.co.uk



STUDIO IN A BOX

Guitar Tracks Pro 3

Turn that idle strumming in your garage into a rock anthem with just a few clicks...

Price £35 Manufacturer Cakewalk Web www.cakewalk.com

Cakewalk has been synonymous with intuitive, powerful music creation software since dungarees, glowsticks and white gloves were considered essential attire for a good night out, so our hopes were high that *Guitar Tracks Pro 3* would continue the proud tradition of its forebears. And by and large, we weren't disappointed.

This app is designed for amateur musicians who can't afford to spend hours in a high-tech studio, but still occasionally wake in a cold sweat, convinced that the song fragment floating around in their head is possibly the greatest contribution to popular music since early man first tapped two pebbles together, somewhere in North Africa, in 6,200BC. All of which means that the interfaces need to be easy to understand and instantly familiar to anyone who's been anywhere near a guitar amp in their life. Thankfully, this is the main area in which *Guitar Tracks Pro 3* excels. Thanks to its roots in Cakewalk's family of sequencers (of which *AcidLoops* is probably the most famous example), recording, cutting, mixing and mastering can all be achieved in a totally intuitive drag'n'drop interface. Here you can record live vocals or guitar, then create loops of the results on the fly, and soon you'll find yourself playing bits backwards, adding

high-quality delay and modulation effects and layering your composition in a manner that could have George Martin furrowing his brow in admiration.

MUSIC MATTERS

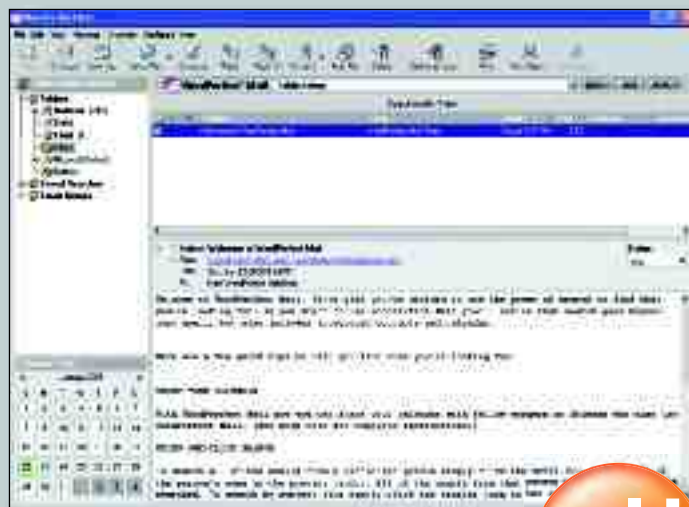
GTP3's various screens (including the mixer view, which replicates a recording studio desk) make it easy to keep track of all the different elements as your song takes shape, and since the app is compatible with a host of file formats, including MP3 and WAV, adding samples and sharing the finished results online is also very easy. The program is perfect for those who want to write their own music, but don't necessarily have the patience required to pore over endless instruction manuals and would rather not be concerned with yawntastic techy stuff like sawtooth algorithms and dynamic signal processing. All these higher-end aspects are available and work well, but if you just want to sketch out some musical ideas, you can't go wrong with this versatile and fun application.

Alex Jones

Needs 1GHz CPU, 256MB RAM

Wants 1.5GHz CPU, 1GB RAM, MIDI

83% PCF says... "Great for amateur musicians and experienced producers."



gold
PCFormat

OFFICE FACE

WordPerfect Office X3 Standard

WordPerfect Office has been trying to topple Microsoft's suite for yonks

Price £276 Publisher Corel Web www.corel.co.uk

Time was when the Microsoft Office package ruled the roost. Well, it still does, but there are signs that things might be about to change. First, it lacks so many important features, like the ability to produce or read PDF files. If you're a business user, this is a major slap in the face. Second, at around £400 for the standard edition, Office is just too expensive. Even though Office 12, when it comes out later this year, will undoubtedly correct a lot of the omissions, that's still a lot of moolah.

SUITE MEET

So, what are the alternatives? There are three main ones. You can either download OpenOffice for free, which does all the basic tasks. Or you can lash out just under £50 and buy Sun's recently released SmartOffice 8 which does almost everything that Office 2003 does, but at a fraction of the cost. The third option is WordPerfect Office X3 Standard. It isn't just content to mimic Office; it actually tries to improve on it. The main suite components are WordPerfect (a word processor), Quattro Pro (a spreadsheet app) and Presentations (similar to PowerPoint, in most respects). You also get WordPerfect Mail, an easy-

to-use email client with effective email, calendaring and RSS tools.

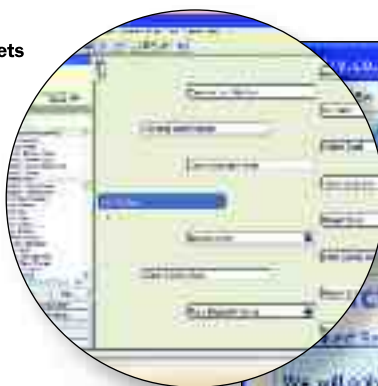
The suite is stuffed full of small but telling improvements aimed at making it at least as effective as Office. All the apps have interfaces that are especially clear and easy to use but (if you must) you can also make them resemble Office. Most of the radical improvements, though, are in WordPerfect. For starters, it will import PDF files. In our test, it made a dog's dinner out of graphic components but did at least get most of the body text across complete with formatting; this is a better option than copying and pasting it directly from the Acrobat file. Another WordPerfect feature that Word lacks is the ability to strip out metadata – earlier revisions, undo and author information. The ability to carry out Yahoo! searches directly from within WordPerfect is even more useful. In short, it's great throughout, but for the occasional home user, it's still a bit on the costly side. **Stephen Copestake**

Needs 466MHz CPU, 128MB RAM

Wants 1GHz CPU, 256MB RAM

90% PCF says... "A superb suite. Cheaper than MS Office but still pricey."

The Pedigree View lets you see several generations in a single glance.



With your family tree entered, WDYTYA can create a variety of attractive graphs.



HISTORY LESSON

Who Do You Think You Are?

You could be the great-great-great-great-great grandchild of a long-forgotten royal and just ripe to ascend the throne. But, let's face it, you're probably not

Price £30 Publisher GSP Web www.gsonline.co.uk

Stephen Fry's done it, Jeremy Clarkson's done it, even Ian Hislop has done it. Yup, they've all researched their family histories on the popular BBC show, *Who Do You Think You Are?* We're all familiar with games based on movies, but software based on TV shows is a murkier world. Not many want to play *Who Wants To Be A Millionaire?* on their PCs, but GSP is banking on the hope that this BBC tie-in will help it boost its family tree market share. However, GSP already publishes three good family tree applications:

Family Tree Genealogy Suite, *Family Tree Maker 2006* and *The Times Family Tree*.

There's no doubt that the only real appeal of this version over the standard *FTM* is the addition of the celebrity content. Ten celebrities took part in the first series of *WDYTYA*, and all appear here. You can watch as Jeremy Clarkson sifts through legal records, David Baddiel tracks down old factory sites and Bill Oddie visits weaving mills.

Once you dig your way past the inevitably long data-input screens and chart options, the only thing we haven't seen before is the tie-in stuff from the TV show – you can read the family trees

YOU SHOULD ALSO CONSIDER...

- >> **Family Tree Maker 2006**
GSP
- >> **FT Genealogy Suite**
GSP
- >> **The Times Family Tree**
GSP

of celebrities who were on the show, and watch a few clips from the first series. You do get a 30-day free subscription to www.ancestry.co.uk, though, which is very useful for relative wrangling.

GENE GENIE

Any genealogy program is really just a thinly veiled database, and when you get past the celeb clips, this is just *Family Tree Maker 2005*. No special additions, no unique content or indeed any real

reason to prefer this to the newer (and more advanced) *Family Tree Maker 2006* – which is the same price. Being little more than old software repackaged

doesn't hold it back from greatness, particularly as *FTM* is widely acknowledged as a superior genealogy system. But the key improvement is the localisation to the UK edition of the Ancestry site and its tight integration with the software. Using www.ancestry.co.uk You can track your family back centuries, then one-click import that data into the offline tree. This done, you can then create any number of graphs,

views, reports and, for serious buffs, slideshows and scrapbooks. You can even edit photos to reduce red-eye and so on before attaching them to entries. Arguably the most enlightening part is the Pedigree View, which shows up to seven generations simultaneously. It gives you a broad overview of your burgeoning family tree, but lets you jump to the web to trace and update your sources.

Genealogy isn't just for retired people, but we don't think this software has quite enough to appeal to the same broad audience as the television show. *Who Do You Think You Are* is essentially a glorified database with links to a much better online database that costs £70 a year to access when your trial period expires. If they could remove the program altogether and handle it all online, the age barrier might drop to the point where everyone could come and have a go.

Paul Hudson

"You can track your family back centuries then import the data"



Needs PII 300Mhz, 800x600 screen

Wants PIII 500mhz, 1,024x768 screen

80%

PCF says... "Easy to use, but with little innovation. Still a good genealogy program."

ROUND-UP

Using a firewall is the best way to protect your PC from evils on the internet says Paul Hudson

Most of us have seen computers like it. You sit down, and almost immediately a random gambling advert pops up on the screen without prompting from you. Small, complex civilisations of spyware fester silently, deep in the registry, chewing up resources, causing system crashes and generally proving a nuisance. If you're not running a firewall, your computer is like a house with all the doors and windows left open.

TAKE CONTROL

On first glance, you might think a firewall is really just about shutting all those open entry points, but that's really only the beginning – a good firewall enables you to selectively poke holes in its internet shield so that you can play games online, video chat with *Windows Messenger* and so on. In fact, the best are clever enough that you can leave them alone and they will dynamically adjust to their environment without bothering you. Everyone needs a firewall, but not everyone needs to pay for a firewall. What's best for you?

Make sure you have a firewall that maintains a good level of defence.

THE INTEGRATED OPTION

Windows Firewall

It's free and pre-installed with XP, but is it any good?

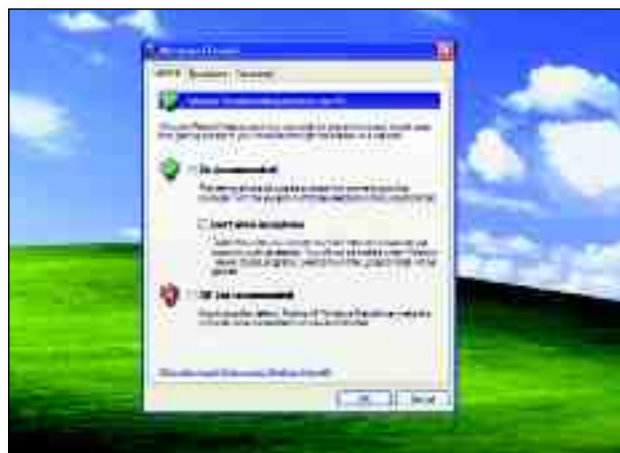
Price Free Publisher Microsoft Web www.microsoft.com

Everyone knows that firewalls are a basic requirement in Windows, but only in the last few years did Microsoft make a default firewall for new users. Earlier versions of Windows XP (pre-SP2) had quite a basic firewall that got

slated by most advanced users, but Microsoft took the opportunity of SP2 to introduce a more powerful system that makes it as good as most people need.

A BIT LEAKY

The best thing about *Windows Firewall* also happens to be its biggest potential hindrance. Like a lot of Microsoft software, *Windows Firewall* likes to do things behind your back. For example, *Windows Messenger* uses its own internet port to connect from your system to the outside world, but *Windows Firewall* will silently add it to the list of exceptions (programs that are allowed to connect through the firewall) so that it works without user input. This makes it very easy to get the basic Windows programs up and running, but the drawback is that the video conferencing features of *Messenger* use random port numbers. Trusting as it is, *Windows Firewall* will happily open up these ports for *Messenger* on request,



Windows Firewall has been made to be as user-friendly as possible, with it simply appearing in the Security Center.

BOMB-PROOF SECURITY

ZoneAlarm PRO

Overly complicated but as strong as an ox

Price £30 Publisher Zone Labs Web www.zonelabs.com



We all know that the nastiest-tasting medicines are often the ones that work best, and with computers the probable equivalent is that the dullest-looking programs can often be the most powerful. If this holds

true, then *ZoneAlarm PRO* must truly be the most powerful firewall imaginable, because its user interface is cleverly designed to leave you hunting around for each and every useful option, while placing the really important stuff (such as changing the colour of the interface) in the most obvious places.

A COMPLEX INTERFACE

Not only is *ZoneAlarm PRO* a firewall, but it tracks and removes spyware, protects your email, safeguards your privacy and even monitors your anti-virus software. All these features are split up into tabs on the left, with further options displayed in sub-tabs across the top – complex enough that reading the manual before you start is a smart move.

ZoneAlarm PRO will automatically enable some programs to access the internet, so you'll find that programs such as *IE*, *Firefox* and *Windows Messenger* work without any input from you. More importantly, this functionality



ZoneAlarm PRO is a solid firewall if a little too complicated and the high level of customisation makes it a good option for advanced users.

ON THE DISC!
Try these software suites from your DVD now

so if you use video conferencing frequently your firewall can end up looking more like a block of Swiss cheese. More importantly for advanced users, *Windows Firewall* only blocks people trying to connect to your PC, rather than blocking requests going out, meaning that any pre-installed adware will still phone home.

Being part of Windows means that *Windows Firewall* has that welcome feeling of integration. For example, when you're adding a program to the Exceptions list, it uses the list from your Start menu. *Windows Firewall* is good enough for most with this seamless integration, but advanced PC users will need something more watertight.

Needs 233MHz CPU, 64MB RAM

Wants 1GHz CPU, 256MB RAM

65% PCF says... "Fast, free and almost invisible, but lacking in the most advanced features."

(SmartDefense Advisor) can be disabled or switched to manual mode – when a program asks for access, *ZoneAlarm PRO* will notify you and provide a recommendation. This is a huge advantage, particularly when it's some obscure Windows component you've never heard of.

For power users, *ZoneAlarm PRO* enables you to essentially bypass its GUI and enter your requirements directly into the system. This might seem a bit hardcore, but it's not uncommon to see online gaming FAQs saying things like 'just poke a hole in your firewall on port 8039' and then be fiddling around trying to work it out. With *ZoneAlarm PRO*, this would take just a few seconds.

Needs 450MHz CPU, 128MB RAM

Wants 1GHz CPU, 256MB RAM

88% PCF says... "Inexpensive and feature-packed, with loads of documentation."



ZoneAlarm

Price Free **Publisher** Zone Labs
Web www.zonelabs.com

If you don't want to pay for a firewall but equally don't quite trust Microsoft with your computer's security, you might want to try the free version of *ZoneAlarm*.

ZoneAlarm PRO comes with the basic firewall, as well as spyware protection, privacy protection, email security and wireless PC protection. As you might have guessed, this free version of *ZoneAlarm* only contains that first component, but that's enough to block most internet threats and keep you safe.

Although it works fine, the downsides come thick and fast. The biggest problem is that *ZoneAlarm* lets nothing get by it. If you start *Windows Messenger*, expect various popups asking for action. Again and again it will ask you to either accept or deny internet connections and often you won't have the first clue what the right choice is. Add that to the irritating user interface and it's safe to say this one is only marginally better than *Windows Firewall*.

Needs 450MHz CPU, 128MB RAM

Wants 1GHz CPU, 256MB RAM

72% PCF says... "It works adequately, but it's always an exercise in frustration."



Sunbelt Kerio Personal Firewall 4.2

Price \$15 **Publisher** Sunbelt Software
Web www.sunbelt-software.com

Surely a firewall priced at about £10 must have more holes than a PGA golf tour? Much as we hate to say it, you really do get what you pay for in this case. *Kerio 4.2* is a disaster area that combines an unwieldy interface with a chronic lack of any software intelligence. Is this thing doing anything other than updating its spreadsheet-like charts every second? Worse, the program crashes. And we don't mean that it bails out nicely then restarts where it left off, it blue screens XP, taking the whole system down with it.

If you fight your way through these initial problems, you'll discover that *Kerio Firewall* comes with a web ad-blocker and a few other little tit-bits to add bullet points in sales pitches. Quite simply, a firewall that doesn't help you effectively block bad network traffic barely qualifies to be called a firewall at all.

Needs 233MHz CPU, 64MB RAM

Wants 500MHz CPU, 128MB RAM

38% PCF says... "Potentially more of a danger to your computer than not using a firewall at all."



McAfee Personal Firewall Plus 2006

Price £40 **Publisher** McAfee **Web** www.mcafee.com/uk

A few years ago, McAfee used to have quite a reputation for sluggish performance and weak upgrades, but recently it has managed to shake that off and come up with some worthwhile and valuable products, and this is one of them. *McAfee Personal Firewall Plus* is so easy to use that even your gran can set up a *Quake* server. Through a mixture of icons, pointers and quick tips, it's a doddle to find your way around and get things working as you want them to.

Like some other firewalls, McAfee uses an internal database of applications to allow and deny, which means that *Firefox*, *IE*, *Media Player* and other common applications will sail through untouched, whereas spyware and more uncommon apps will get stopped at the gate awaiting your input. As the most expensive firewall on review, it's no surprise that it's good. But a much better deal is the *McAfee Internet Security Suite* for £10 more.

Needs 233MHz CPU, 128MB RAM

Wants 800MHz CPU, 256MB RAM

93% PCF says... "Not cheap when bought by itself, but it's a fire-and-forget solution for all types of user."



Agnitum Outpost Firewall Pro

Price £32 **Publisher** Agnitum **Web** www.agnitum.co.uk

Outpost Firewall Pro looks at first like a very basic application. Programs are shown in long lists on your screen, most of its options are hidden and it doesn't have any fancy graphics. But behind the scenes, *Outpost* is one of the most feature-packed firewalls on offer here. Not only is it a firewall, but it blocks spyware, filters websites based on their content, protects your email and even has an active security watch that spots (and stops) hacker probes.

So, the clear upside is that you get an awful lot for your money, but the problem is the lack of usability; it looks and works like something you need a degree in computer science to understand. Sure, it's great that *Outpost* can spot ping sweeps and auto-block IP addresses for five minutes, but that's the kind of functionality you expect from £2,000 dedicated firewall hardware. Although there's no such thing as having too much value for money.

Needs 233MHz CPU, 64MB RAM

Wants 500MHz CPU, 128MB RAM

80% PCF says... "Provides enough information for even the most security-paranoid to be happy."

**"Tycoon City
challenges you
to create your
own metropolis
from the
ground up"**





A green oasis in the traffic-choked centre of the city – we missed our calling as town planners.

GO TO TOWN

Tycoon City New York

Make your very own Big Apple crumble with this photogenic, baby kissing mayor-'em-up

Price £35 Publisher Atari Developer Deep Red Web www.uk.atari.com

There isn't a facet of our lives that hasn't been digitally rendered and had the word 'tycoon' tacked onto it. First there was the *Railroad Tycoon* series, which was such a runaway success it spawned all kinds of imitators, as game publishers the world over attempted to cash in on the new management-sim craze. We're waiting with loaded pistols at temples for the new wave of titles, like *Fish Tycoon* and *Hard Truck Tycoon*. We've not made up those names, either – they're real and they're in the post.

SIMPLIFY MAN, SIMPLIFY

This particular Tycoon hails from the developers of the excellent *Monopoly Tycoon* (PCF 129 90%), Deep Red. *Tycoon City New York* gives you a building site version of the city that never sleeps; just a network of roads and empty lots, and challenges you to do create your own metropolis from the ground up.

It seems that with *Tycoon City New York*, Atari is clearly attempting to distance itself from the micro-management of other building sims and is concentrating on simplifying the genre.

You don't have to worry about setting the price of pizza \$0.01 less than your competitors, or decide where your transport network gets fouled up. All you need to do is build up businesses or places of residence, upgrade them a little and wait for the cash to roll in. The problem is that by paring down a fairly complicated subject like urban reconstruction to these basic elements, you lose a lot of what makes these titles so addictive.

There are two game modes: Build New York and Sandbox. The latter dumps you into the full Manhattan map, complete with ready built landmarks, like the Flatiron building and Times Square, with open access to each of the 13 districts. You choose how much money and how many all-important Upgrade Credits you begin with. Then you have the rather daunting task of filling the wide open spaces with concrete, brick and the occasional flower arrangement. This is the harder game mode and getting past the brain lock that accompanies this blank canvas of vacant lots can be trickier than not

ON THE DVD

>> Screenshot gallery



BUY THIS IF YOU LIKE...

>> **Sim City 4**

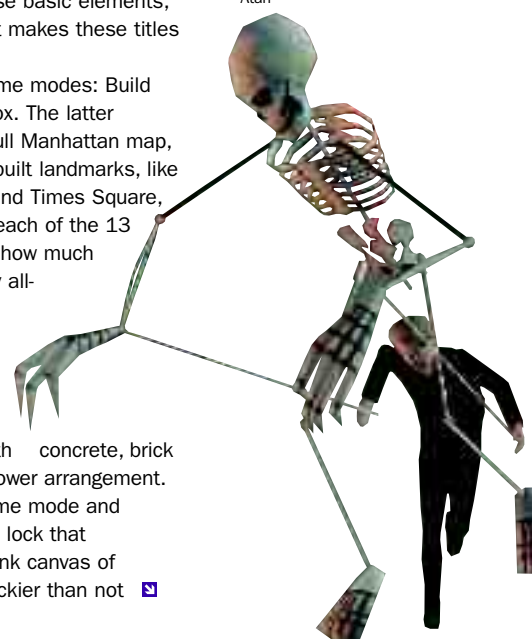
Electronic Arts

>> **Railroad Tycoon 3**

Take Two

>> **Roller Coaster Tycoon 3**

Atari



getting mugged on a late night stroll through Central Park.

Things feel a little empty here though. There's no incentive to build your profits to buy up the famous landmarks, as you hold dominion over them from the beginning. Your opposing entrepreneurs are supposed to offer the challenge, but they only really appear as positions to overtake on the top ten charts. There's no way to seriously compete against them, you can't invest in their companies and take them down from the inside, and they can be destroyed by buying their successful businesses from under them. This costs a huge premium, but at no time do they try and stop you from buying them out. Having said that, if all you want to do is build pretty, shiny skyscrapers then you will find yourself in your element.

OPPORTUNITY KNOCKS

The Build New York option is much more user-friendly and eases you into the city district by district. Starting off in Greenwich Village, you are given 'opportunities' to respond to needs and



Arranging lots of rock clubs in the same place will turn it into a thriving entertainment area. Full of goths.



You can follow individuals around your metropolis at will. Let's stalk!

events in the area. These are sometimes introduced by cheery little sims performing skits informing you of these new possibilities, but more often than not they just appear as text boxes. This isn't necessarily a bad thing as the drama school-fresh New York accents begin to grate after a while.

These challenges introduce you to the workings of the game, for example one of the early opportunities in the Village is to build up the nightlife in the area like restaurants, bars and clubs. There are also challenges that require you to uncover certain types of inhabitants wandering around the district and create a business catering to their

tastes, like building cinemas where you find a concentration of art students, for example. Visually, the most rewarding opportunities are the ones where you need to build up the area around a proposed parade route, like St Patrick's Day or Halloween.

WE WANT A SHRUBBERY

On the surface these challenges seem varied, but essentially they all boil down to the same thing; build and upgrade. This is where the big sticking point of the game lies; it all just feels superficial. Once you've created a building you then have to upgrade it to set it apart from the opposition and improve public perception. Money isn't a prerequisite for upgrading, though, as you automatically receive a certain amount of Upgrade Credits per building to spend on it. The upgrades themselves are generic and don't vary much from business to business.

If you want your museum to be more popular than its rivals what do you do? Do you create an exhibit displaying the sex lives of the ancient Babylonians or the shrunken heads of our first jungle-bound explorers? No, you stick a cherry blossom tree and some blue banners outside of course. The worst offender is the boxing gym where the only way to make it more appealing is to dump a few flower beds outside. While that may work for Chris Eubank, we doubt if Rocky would've put up with it.

Despite your name on the deeds it's hard to feel any real sense of ownership of the buildings. Because you can't

The only way is up

Skyscrapers are just the beginning...



1

Before you build something it is important to check how it will be received by the general populace. Once a type of business has been selected you can hover over the proposed site and it will show how popular it would be.



2

Clicking on a possible upgrade shows you where it can be placed and also what effect it will have on either the appeal, satisfaction or beauty of the particular location. This is illustrated by the bars at the top left.



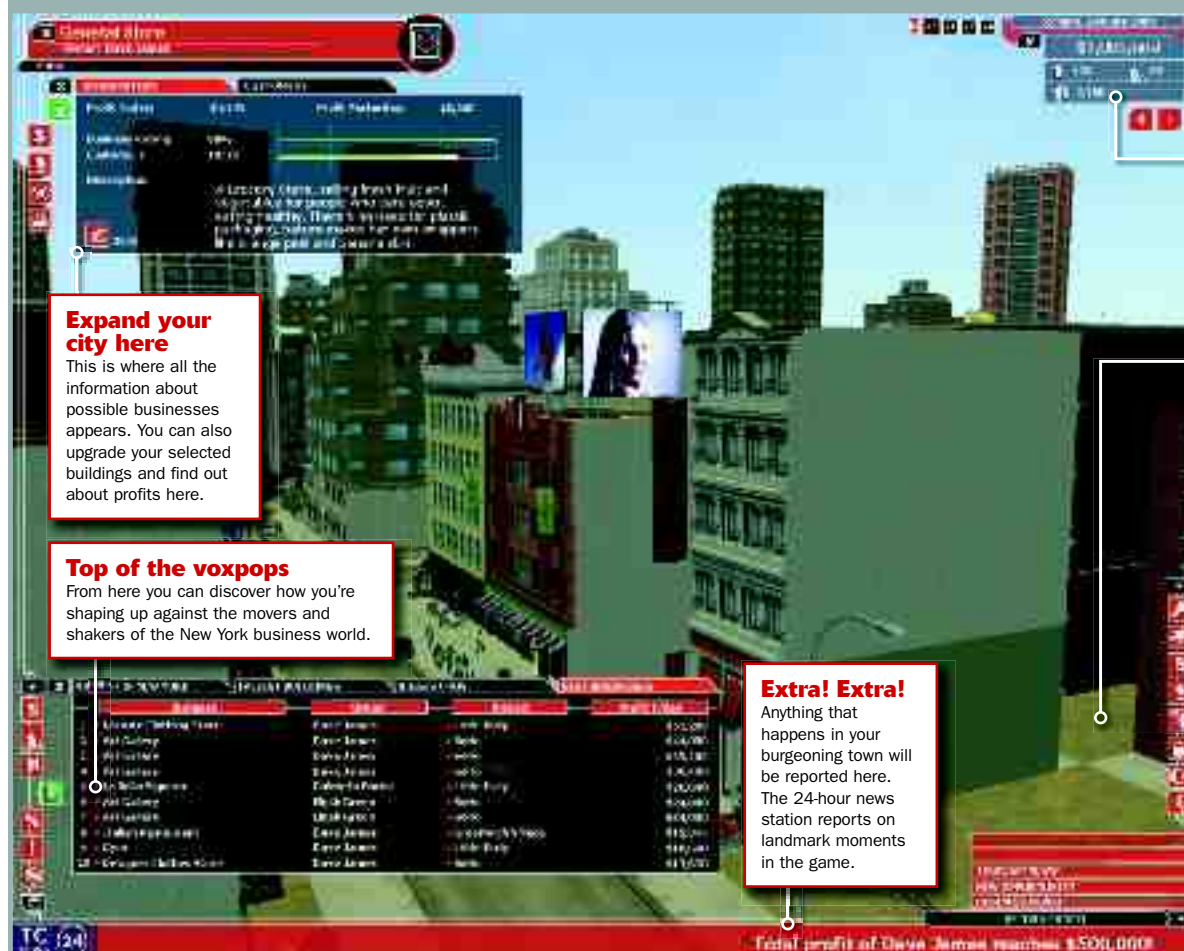
3

If at all possible you should use up all the upgrade credits available on a building. This will increase the popularity of the business and hopefully your profit margins as well. These New Yorkers absolutely love their flower beds.

Watching your city's denizens going about their business is a good laugh.



UP CLOSE TYCOON CITY NY



Expand your city here

This is where all the information about possible businesses appears. You can also upgrade your selected buildings and find out about profits here.

Top of the voxpops

From here you can discover how you're shaping up against the movers and shakers of the New York business world.

Extra! Extra!

Anything that happens in your burgeoning town will be reported here. The 24-hour news station reports on landmark moments in the game.

Now it's personal

The basic information for your empire is stored up here, including your petty cash, upgrade credits and the current population.

Keep an eye on all of your city

As well as the filters for the business precincts, you can view the least and most profitable enterprises on the map itself.

"The game quickly becomes repetitive especially in during the early stages"

personalise your buildings past the included upgrades, your book stores look practically identical to their competitors. If you could only change the shop signs as and when you felt like it, that would be something, but this comes under the micro-management umbrella.

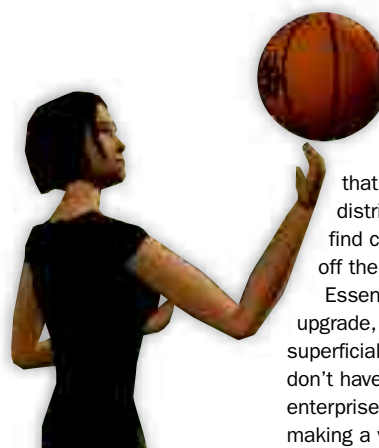
You can upgrade some buildings using advertising boards, which display a mixture of fictional and real adverts. This is an integral part of New York, and product placement is far more prevalent and accepted in the United States than it is over here, so that's eminently forgivable. What isn't is the direct advertising from the game itself. You can build real stores, like Lacoste and D'Agostino, but the information panels read like they were farmed out to their marketing divisions to write themselves.

Once you've exhausted all the challenges in a particular district, the only way to open up another is to continue building and upgrading until you've almost filled all the available lots. This gets repetitive very quickly, especially on the early boroughs, which have fewer building options, as you end up having to repeat businesses or

simply build more and more apartment blocks to fill up the space.

DISTRICT LINE

New districts are added to your current empire and give you a real sense of the city expanding. The graphical representation of this is excellent, from street level up to the eaves, especially once it's all built up. You can watch your residents take a seat on the terrace of your favourite Italian restaurant or walk out of a grocery store



weighed down with shopping bags. You can even select inhabitants and follow them around. The only problem is

that because they only show the districts you're building on, you'll find cars and people disappearing off the sides of the borough.

Essentially it's a case of build, upgrade, repeat, and on such a superficial level that once created you don't have much to do with your enterprises. Deep Red has succeeded in making a very basic city builder, but aside from a desire to see a large city, you're not going to find yourself hopelessly addicted and losing valuable sleep to this *Tycoon*.

Dave James

Block party

It's all about building up your precincts



When you group relevant businesses together, precincts are formed. Retail outlets placed together will work better as will entertainment venues. Group parks, shops and cafés together, and an area will become safe, popular and its appearance will automatically improve.

Needs 1.2GHz CPU, 256MB RAM, 64MB 3D card

Wants 2GHz CPU, 512MB RAM, 128MB 3D card

Net gaming None

Discuss pcformat.co.uk/mag/tycooncity

72%

PCF says... "Looks great, but not quite as full of variety as you might expect from NYC."

BANGED TO RIGHTS

SWAT 4

The Stetchkov Syndicate

Who'd have thought police brutality could be so much fun?

Price £15 Publisher Vivendi Universal Developer Irrational Games Web www.swat4.com

Special Weapons and Tactics teams generally get a bad rap in the entertainment industry. We've seen countless cop shows berating their gung-ho, blood-equals-fun attitude, and more movies where vest-wearing heroes have to rescue the fools as they get



Civilians not co-operating? Lay the silent, kevlar-clad arm of the law on them.

ON THE DVD

>> Screenshot gallery



BUY THIS IF YOU LIKE...

>> SWAT 4

Vivendi Universal

>> Splinter Cell 3

Ubisoft

>> Rainbow Six: Raven Shield

Ubisoft

"Team control has been greatly improved and streamlined"

themselves into yet another nasty scrape. The original SWAT 4 was a tense affair; on in which our well-equipped protagonists finally got to play the lead role and get the proverbial girl.

MOTHER RUSSIA

The *Stetchkov Syndicate* expansion is more of the same, with added narrative content. While you're still responding to 911 calls, they're interlinked with an evil

European crime syndicate taking root in the city that needs to be plucked out like a bad eyeball.

Controlling your team has been streamlined as well, thanks to the addition of the Hold command. This

allows the leader to issue orders to the team, have them take up position and wait for his order before carrying them out. It's now blindingly simple to



Co-ordinating a pincer attack on the living room is now a piece of cake.

organise lethal (or non-lethal) pincer moves with utter precision.

The multiplayer game, which was a huge part of the game's success, has been given an update too. All seven of the new singleplayer missions can be used and they've doubled the number of players that can operate in a co-op match from five to ten. Another feature it's been crying out for is an option to use Voice over IP technology, which gives the online game another level of throat-straining realism.

Dave James

Needs 1.2GHz CPU, 256MB RAM, 64MB 3D card

Wants 2.4GHz CPU, 512MB RAM, 128MB 3D card

Net gaming Up to 16 players.

80% **PCF says...** "An intelligent update that gives you just enough to make it worthwhile."

CAINE-ENABLED

Empire Earth II

The Art of Supremacy

Take on the might of the Zulu nation

Price £20 Publisher Vivendi Universal Developer Mad Doc Software Web www.empireearth.com/uk

We prefer our RTS add-ons to provide a little more than just a few new units and maps.

So what does *Art of Supremacy* bring to the *Empire Earth II* shindig? Well, for a start there are three new civilisations to



Moving your units into heavily defended towns is not without risk.

ON THE DVD

>> Screenshot gallery



BUY THIS IF YOU LIKE...

>> Rome: Total War

Activision

>> Age of Empires III

Microsoft

>> Codename: Panzers

Phase Two

CDV Entertainment

manhandle through history, set over two famous battles: Rourke's Drift and Kursk. While Kursk demonstrates the best of *Empire Earth*, epic conflict on several fronts and leaping across the play area to manage several battles at once, the two Rourke's Drift missions are encumbered with so many artificial restrictions that strategy hardly comes into the equation.

LOCAL DAMAGE

As you might hope, the campaigns are a somewhat fleshier proposition. Where *Art of Supremacy* differs from the original, however, is that the various missions are all set within shorter time spans. The original game's campaigns were a whistle-stop tour of history with plenty of scope for unit advancement, but AoS is much more localised and arguably suffers as a result. As an example, the peculiarly futuristic Masai



Zulus (thousands of w'em) taking on the assembled British Redcoats.

tribesmen theme seems almost a throwaway addition, with its lack of a historical point of reference and meagre two-year plot.

We can only recommend *Art of Supremacy* to hardcore fans, and though that may sound like the traditional expansion pack cop-out, it is because, ultimately, AoS is the traditional expansion pack cop-out. **Mike Channell**

Needs 1.5GHz CPU, 256MB RAM, 64MB 3D card

Wants 2.2GHz CPU, 512MB RAM, 128MB 3D card

Net gaming None

70% **PCF says...** "A reasonable amount of content, but lacking in genuinely new features."



"Have I got something in my teeth? No, but I will have soon enough..."



Just another day surrounded by the undead and kicking ass upside-down.



Rayne takes on Ephemera, one of many siblings on her chopping list.

BLOOD-CURDLING ACTION

Bloodrayne 2

Rayne's return is set 60 years after her first outing took a bite out of PC gamers. Let's see if she knows any new tricks

Price £25 **Publisher** THQ **Developer** Terminal Reality **Web** www.bloodrayne.com

This game's predecessor was a riot of gore-soaked irony, a leather and PVC two-piece filled to bursting with tongue-in-cheek dialogue and exaggerated violence. Rayne's cult success is assured, but it's despite *Bloodrayne 2*, rather than because of it.

Whereas the first game was preoccupied with slow-mo gunplay, finished off with a slice and a suck, in *Bloodrayne 2* has a bee in its bonnet about hand-to-hand combat. It's as much an old-fashioned beat 'em-up as it is third-person action. Pull a button combo off and Rayne does something deliciously nasty to the target. With more combos for flips and dives, it's a button-bashing frenzy as you out-move and out-slice an opponent. The whole point is to dismember the human form in the most graceful, decadent manner you can muster. If you feel you won't enjoy finding interesting ways to engage an opponent, avoid *BR2* because that's almost all it's got to offer. What gunplay remains is distilled down to the Dragon Pistols, upgradeable guns that use blood for ammo, either your enemy's when you remember to fill up, or yours if you forget. You can go through the game

without learning any moves, hacking and slashing, but that would miss the point.

Rayne can now swing and shimmy, climb poles, fences, and do interesting things on scaffolding. It's like watching a member of the Transylvanian Olympic gymnastics team. But there aren't enough opportunities to explore this new acrobatic angle. Too often you're left hurling henchmen into boilers with your whip-like chain. It's that kind of unimaginative level design. The art's all lovely, but from a mechanical point of view, it's lazy. Sliding down a banister is

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BUY THIS IF YOU LIKE...

>> *Price of Persia 3*
Ubisoft
>> *The Matrix Online*
Sega
>> *Vampire The Masquerade*
Activision

Vaulking vamp

Tightropes, and even tighter trousers



Terminal Reality has made a collection of fantastic animations for Rayne's moves, and our leading lady is now more limber than ever. This means that at times, controlling Rayne feels similar to playing as the xenomorph in *Aliens vs Predator*. Unfortunately, such moments are very rare.

Rayne's what we like to think of as a cross between Lara Croft and The Bride of Dracula.

great, but we'd have loved to make more use of Rayne's new tumbling skills.

BLOODY HELL

Bloodrayne 2 is aimed at a devoted audience, who'll lap up the orgy of blood despite the game being (whisper it) a bit rubbish. If you're thinking, 'That looks ace!', buy with confidence. If Kung Fu Rayne ain't doing it for you, don't bother. *BR2* is about an almost entirely visual experience; a dance to the death. To love *Bloodrayne 2* you must be able to revel in violence and take pleasure in slowing down time just so you can watch the danse macabre in even more detail. If you can't do that, turn the page. If you can, you're probably on your way to the asylum already, a little more excited than is strictly healthy.

James Carey

Needs 1GHz CPU, 256MB RAM, Geforce 4 or equivalent

Wants 2GHz CPU, 1GB RAM, DX9 card

Net gaming None

Discuss www.pcformat.co.uk/mag/rayne2

71% **PCF says...** "Misses a few crucial tricks which could have given it greater mass appeal."



The graphics engine isn't outstanding, but can produce some pretty scenery at times.



Stealing an enemy's uniform is one of the more interesting options available to you.



Switching between team members on the fly encourages you to think on your feet.

STEALTH SERVICE

Commandos Strike Force



A delicate ballet of violence, stealth, explosions, and cross-dressing soldiers. It's time to go over the top...

Price £30 **Publisher** Eidos **Developer** Pyro **Web** www.commandosstrikeforce.com

By rights, everything about *Commandos: Strike Force* should be sounding alarm bells in your gaming brain. It's a multi-platform first-person shooter, derived from a two-dimensional puzzle/strategy game. It's been in development for ooh, yonks, most of which has been spent in catch-up and apologising for delays. The original game featured eight classes of soldier – who would each sneak around massive landscapes, knifing and sniping Nazi patrols completely independently. *Strike Force* has three – two of which spend their time cracking bullets. Then, there's the recent history. Contemporary World War 2 shooters have featured explosions, death, violence, explosions, blind heroism in the face of appalling odds and cows. Exploding cows. The odds are not in *Strike Force's* favour.

BAND OF OTHERS

Yet, somehow, this new *Commandos* game succeeds. It's never less than a fun, occasionally glorious, attack on all too common first-person shooter values. It retains the essence of the 2D games, while sneaking that little bit closer to the subject matter than perhaps previous

ON THE DVD

>> Screenshot gallery



BUY THIS IF YOU LIKE...

- >> **Brothers in Arms**
Ubisoft
- >> **Call of Duty**
Activision
- >> **Commandos 2: Road to Berlin**
Eidos

games in the series managed. Silence those alarms.

Strike Force is a game of three split personalities; the sniper, green beret and spy. You direct these special forces chums all around European battlefields, from a dodgy parachute landing in Normandy, to an East Berlin vacation, while ventilating the chests of goose-stepping comedy Nazis. Each of the team has their own special skills; like one quarter of the dirty dozen. The sniper does exactly what he should –

“Levels can be ultra dense and are filled with bonus mission objectives and optional tasks”

separate brains from heads at vast range. The green beret is a dual sub-machine gun-wielding heavy weapons kinda guy. Best of all though, is the spy: he's a toff, deadly with a silenced pistol and garrote, but deadlier when wearing the uniform of a recently deceased German. With the right clothing, and a bit of luck, he can sneak right into



Commandos has successfully made the transition to a 3D shooter.

enemy encampments, steal, sabotage, or strike at whatever target you deem important, and walk out unscathed. You flick between the three by stabbing at the [Tab] key.

Most first-person shooters act as simple target galleries. Not here. Instead, *Strike Force* creates a series of combat and stealth-based puzzles, and asks you to think your way out of them. An early, simple mission is a good example. The spy and sniper are to ambush, then liberate, a convoy of prisoners. It is a tiny, two minute task; as the sniper, you take out two guarding



The Spy sections are some of the most thrilling stealth missions we've played.

officers, then, as the Spy you steal one of their uniforms. That gives you the freedom to wander through the convoy unchallenged. You stalk each guard, waiting until he's facing away from you. Then you strike, silently strangling them. Each truck is quietly opened, and the prisoners are moved to a safe haven.

But then you're spotted, and the guards start firing. You take the spy to safety, then switch back to the sniper. Bang. Bang. Bang. Every guard falls. Mission complete. Be wary, though, none of your squad has any AI at all. If you're tabbed to the sniper, don't expect the 'Beret to run for cover.

The later missions are spectacular. Rather than resorting to *Call of Duty* style extravagance, *Strike Force* stretches out the stealth. You can spend a good hour in the Spy's skin, scoping a

target, disabling alarms and removing threats before closing in. Levels can be ultra dense – they're filled with bonus mission objectives and optional tasks – infiltrate a hotel, kill an officer, steal his uniform – that can help or hinder you on route to your main objective. At that moment of completion your body deflates. You're exhausted. You must have been having fun, because your back is tense, your shoulders arched into the screen. You're utterly engrossed.

OPERATION LIONSEAL

It's great, but it's not perfect. Most of all, it wears the scars of multiplatform development. Environments, although well designed, and detailed, can be bland. Textures lack the detail of something like, say, *Brothers in Arms*, while character models all share the



No, you're supposed to pat your own head and rub your stomach.



The poker night took a violent turn when Gerald refused to pay up.

Three wise men

United they stand, divided they quickload



1

The *Commandos* team only works when the three soldiers work together. Simultaneously apply their firepower and skills at one target, and it will fall in seconds. Spread the violence over a multitude of goons, and you'll fail. The Sniper has to take up position in a small barn.



2

The team have parachuted in to Normandy, but some blighter has betrayed them. Before we court-martial the brute, you have to escape this trap. The Green Beret runs the gauntlet. Searchlights illuminate his presence. The Sniper takes them out before the Green Beret has



3

Now, it's time for the Green Beret to let rip. There goes the entire German rear guard. It's teamwork like this that'll get you through each and every mission. Failing to think out a plan of attack before making your concentrated moves will result in nothing but failure.

same creepy impression of a face. Some may also find it a little easy; especially those who can 'ghost' a *Thief* level.

But *Strike Force* also lets you have a great deal of fun. It's a game that provides just enough cracks and knotholes in a hut's wooden panelling to let you snipe the occupants without entering the building. It's a game that knows it's one thing to strangle a man to death – quite another to overpower that same man when he's snogging a lady of ill repute.

We didn't expect a great deal of interesting gameplay from *Commandos: Strike Force* when it dropped through our letterbox. Somehow, that makes playing this all the sweeter.

Dave James

Needs 1.2GHz CPU, 512MB RAM, 128MB 3D card

Wants 2GHz CPU 1GB RAM, 256MB 3D card

Net gaming 2-16 players online

84%

PCF says... "A silent and deadly change from the usual WW2 percussion. Refreshing."

EGG CHASER

Rugby 06

Is it positively scrumptious, or absolutely rucking awful?

Price £30 **Publisher** Electronic Arts **Developer** In-house **Web** www.rugby06.easports.co.uk

Rugby has never translated very well into computer games. There are so many different disciplines within the one sport, like running, tackling, kicking and passing, that it's nigh on impossible to translate to a joypad. You'll be pleased to learn that EA has managed to make a decent stab at it. Unfortunately, its breakthrough



All the English Premiership sides are accurately represented.

ON THE DVD

>> Screenshot gallery



BUY THIS IF YOU LIKE...

- >> **Rugby 2005**
EA
- >> **Pro Rugby Manager 2**
Digital Jesters
- >> **Madden NFL 06**
EA

occurred with the PS2 version of this game, and the PlayStation button layout has somehow migrated to the PC version, with disastrous results.

PITCHED BATTLE

With the PS2 button configuration you have all the controls you need at the appropriate fingertips. If your pad isn't the same as a PS2 one, you've got no hope, and don't even think about the keyboard unless you've got 117 fingers.

With one of the five recommended controllers (such as a Gravis or Logitech), however, you will find a good representation of rugby in there somewhere. The animation is fluid and if you can get the ball wide and run at the

opposition, executing a cheeky sidestep or hand-off does draw a smile or two. The tutorial and practice modes are essential if you want to get anywhere in

"Executing a cheeky sidestep or hand-off does draw a smile"



Now you've made the break it's a case of jabbing your hand into the other guy's face.

the myriad of tournaments. Stringing together passes and maintaining possession is hard to get the hang of with the strong opposing AI.

Scrumming relies totally on your pack weight and rucking requires you to add as many forwards as possible, but then the PC takes over and your involvement ends. This makes the matches feel a bit disjointed as for half the time it seems to be a question of trusting to luck whether you keep the ball or not. This is perhaps the biggest shame because the sport is crying out for a decent simulation. **Dave James**

Needs 1GHz CPU, 256MB RAM, 64MB 3D card

Wants 1.5GHz CPU, 512MB RAM, 128MB 3D card

Net gaming None

67% **PCF says...** "Accurate rugby, but re-mapping controllers requires fiendish text file editing..."

IN, BANG AND OUT

The Regiment

For Queen and country. And some enthusiastic Scottish fellow

Price £30 **Publisher** Konami **Developer** Kuju **Web** www.konami-regiment.com

Another glorious day in the regiment. Every meal's a banquet, every pay cheque's a fortune. At least that's what the game's host, ex-SAS hero John McAleese, or 'Mac', seems to reckon. As part of the close quarters counter terrorist wing of the SAS, you'll be taking part in an



We agree with the right-honourable gentleman toting the machine gun.

ON THE DVD

>> Screenshot gallery



BUY THIS IF YOU LIKE...

- >> **Swat 4**
Vivendi Universal
- >> **Rainbow Six**
Ubisoft
- >> **Full Spectrum Warrior**
THQ

arduous training routine and a range of real and fictional missions.

The SAS has historically had something of a romantic mysticism about it, but that's being eroded by shoddy autobiographies, dodgy reality TV shows, and now this game. It's a shameless *Rainbow Six*/SWAT 4 rip-off that fails to capture any of the style, tension and gameplay of those titles.

THE FAST AND THE STUPID

The basic idea is to take your four-man team through the levels, busting through doorways and double-tapping terrorists. The key is speed and accuracy: we're a long way from *SWAT 4*'s softly-softly approach here. The AI team take stupidity to new heights; order them to assault a door and they'll bust it open, turn their backs to face you and get their nether regions shot off. The finicky training you go through to discover how to control this band of tool-up monkeys is unforgiving, and although it's



This hostage was found feasting on terrorists. Stockholm syndrome gone mad?

meant to be an exact recreation of a real training regime, it seems to bear little relation to the actual missions.

Mac himself is vaguely entertaining, bawling in your ear as you bungle your way through training, then turning all introspective and moody as he regales you with laugh-a-minute tales of the Iranian Embassy siege. He's no reason to buy this game though. **Dave James**

Needs 1.5GHz CPU, 256MB RAM, 64MB 3D card

Wants 2GHz CPU, 512MB RAM, 128MB 3D card

Net gaming Up to 20 players

53% **PCF says...** "A confused, sloppy shooter. You should ignore this and get *SWAT 4* instead."



Our 'hero' shambles about in a convincingly cadaverous fashion.



The fact that we can see his entrails won't stop Stubbs getting his groove on.

MIND-BRUNCHING ACTION

Stubbs the Zombie Rebel Without a Pulse

Quite literally flogging a dead game engine

Price TBC Publisher THQ Developer Wideload Web www.stubbsthezombie.com



Head pounding. Head oozing.

Cry. Moan. Wail. Braaaaiiins! Braaaaiiins! Frankly, that's your review right there. If that's what you want, run, nay, get the bus to your local store, and you won't be disappointed. Believe it or not, *Stubbs* is the latest game to draw the ire of the moral majority, on the grounds that it might promote cannibalism. American senator Joe Lieberman quickly joined in,

ON THE DVD

>> Playable demo

BUY THIS IF YOU LIKE...

>> *Postal 2*

Whiptail

>> *F.E.A.R.*

Vivendi Universal

>> *Evil Dead Regeneration*

THQ

announcing that games like this can 'be dangerous to your children's health'. Indeed, merely playing it is liable to have them launching into a frothing, whirling frenzy, wailing at the screen and beating what remains of their faces into a bloody smear against the table – but not

“Levels quickly become dull and teeth-grindingly repetitive”

because of the cannibalism, of course. Just because it sucks.

ZOMBIE NATION

Stubbs is one of those games that we'd love to like. It's a fun, wacky premise – you play a zombie, single-handedly bringing down a retro-futuristic 1950s town for little good reason, with lots of pretty bloodshed. It's hard to award it the mark you see when *Generic Shooter XVII* rides high in the charts. But a good

idea isn't all a game needs to survive – execution matters, and in this case, it's provided by firing squad. *Stubbs* is almost painful to control, with the framerate bouncing around like a freshly cut head, long animations for all your special powers, stodgy camera controls and a slothful approach to movement that may well be in keeping with the zombie theme, but gets very uncomfortable after a while.

The action is a one-trick pony, with the occasional break for a half-hearted puzzle or subgame. Approach an enemy, whack him, eat his brain, move onto the next. Enemies you kill rise up and join your squad. Neat. They'll follow you around, if they can be bothered, or you can shove them vaguely in the right direction – but they're just cannon-fodder, and the novelty wears off fast. After that, most of your time is spent on entirely linear, non-interactive levels (property damage limited to a few doors and other bits here and there) with basically nothing to do except make some zombies, kill some more cops, and

Oddly familiar

Gentlemen, stop your engines



While *Stubbs* couldn't be further from *Halo's* theme, there's a lot that feels familiar. Vehicles handle just like the *Warthog*, there's a plasma grenade, in the form of *Stubbs'* pancreas, the same checkpoint system is in effect... even the level design has more than a few passing similarities.



After a while, you'll wish Stubbs had been restrained far, far earlier.



The long arm of the law is no match for a decomposing, flatulent corpse in a fedora.

check your watch. It's slow, it's boring. Abilities like possessing enemies are heavily underused, with straight combat taking up 99% of the game, and levels becoming increasingly dull and teeth-grindingly repetitive.

The graphics have a nice, if primitive, style to them, and there are some good sound effects, but the atmosphere is still bizarrely lacking: why remake a stack of kitsch Fifties songs – *Mr Sandman*, *Lollipop*, *Earth Angel* and so on – if you're not going to have any in-game music? Instead, these tunes are mostly used for a poor *Thriller*-pastiche dance-off mini-game, which would have lost *Stubbs* another 10% had it not been skippable with a single touch of the right mouse button, and most of your slaying takes place to the sweet sound of silence. And screams, admittedly.

BRAIN DRAIN

The only part that doesn't completely stop being enjoyable is the chewing and squishing of zombies on civilians, and the responses they come up with ("My favourite arm! How will I juggle again!?") The rest of the comedy, on the other hand, wears out its welcome about the same time that the first joke is cracked.

A few good gags aside – it's the Halo engine, so the top policeman is Chief Masters, some of the robots are good for a laugh and there are some nice one-off lines – the script is childish drivel, with locations like the 'Knobb Cheese Farm', and such inventive material as a fashion model having a range of designer fruit called Maggie's Melons (just in case this is too subtle,



Tasty brains, and directions to the next mission objective. How useful.

it's a sly reference to her breasts. Oh, the hilarity!) It doesn't help that Stubbs is as aimless as his army for the most part of the story – shuffling from location to location for a killing spree. There is a plot, but it's not revealed until near the end of the

"Full of identical enemies to de-brain"

game. Why are you taking a leak into the town's water supply? Because that's your next mission objective. Why are you driving around an oddly *Halo*-like mix of roads and towers? Because

Dead man farting

Stubbs' gut is a weapon in itself



"Found this on the floor. Hands up if it's yours!"



Interiors are extremely repetitive and lacking in interesting stuff to do.

that's your next mission objective. It's all about as playfully anarchic and 'zany' as a tax-inspector's to-do list. *Stubbs The Zombie* isn't a long game – you can complete it in a sitting or two – but it feels like it goes on forever, for all the wrong reasons.

Even if you do consider a noticeable reliance on fart jokes to be the very height of comic genius – and make a note to check for peyote in your water supply if this is the case – most of the game is still resolutely humour-free, consisting of little but fighting armies of guards and then watching a short jokey cutscene. Levels are practically empty, with precious little of interest to find in the streets and – all too often – dark concrete structures full of identical enemies to methodically de-brain. What should have been an anarchic – ahem – no-brainer is instead a tiresome slog, and why Stubbs bothered rising from the grave to experience it, *PCF* will never know. We'd have been hard-pressed to get out of bed.

Richard Cobbett

You know it's a 'wacky comedy game' when flatulence is a weapon, and Stubbs doesn't disappoint. It's one of his four abilities, the others being throwing his explosive pancreas, sending his hand scuttling over walls to possess enemies, and rolling his head like a bowling ball.

Needs 1GHz CPU 256MB RAM, 64MB 3D card

Wants 2GHz CPU 512MB RAM, 128MB 3D card

Net gaming None

Discuss pcformat.co.uk/mag/stubbs

53%

PCF says... "Great premise, but as fun to spend time with as a freshly exhumed corpse."



You'd be forgiven for thinking you were breaking into your local branch of Game.

SQUAD DAMAGE

Rainbow Six Lockdown

Yet another Tom Clancy tactical shooter. Unfortunately this one offers very little flash and very little bang

Price £35 **Publisher** Ubisoft **Developer** In-house **Web** www.rainbowsixgame.com

Think back. *Rainbow Six* was one of the first tactical shooters, and probably the most complicated. Every mission started with a planning sequence, where you worked out the route to follow and where to apply equipment in advance. Then you entered a playing area, improvising changes on the fly and swapping between your squads. The maps were constructed to be highly replayable, based on credible spaces with multiple routes. While AI could be twitchy, it was brutally realistic with a sense of just how deadly storming

ON THE DVD

>> Screenshot gallery



BUY THIS IF YOU LIKE...

>> **Conflict: Global Storm**
SCI

>> **SWAT 4**
Vivendi

>> **Delta Force: Black Hawk Down**
Novalogic

terrorist buildings could be. *Lockdown* has none of that. It's become another first-person shooter.

LOCKED OUT

But what kills *Lockdown* isn't that it's no longer the game it once was – but that the game it is now is just bloody awful. AI issues are probably the worst part. While a team trails dutifully after you and can be ordered to open doors and Go To places, you can't actually use any tactics due to their lack of precision. The enemy terrorists prefer to spend time shouting "Die Fascist!" rather than shooting you. Why use the squad commands when it's easier to just open the door and shoot everyone? All are geniuses compared to the hostages, who could have been kidnapped from early *Counter-Strike* betas for all the intelligence they show. Will they remember to follow the player? Will they get lost? Will they wander in front of the player in a fire fight? Ah, the excitement of life as a counter-terrorist.

It goes on and on. The maps are so linear that it doesn't even give you an in-game map. The settings are so ill thought-out that while you have to wear the light-intensification goggles to



I suspect this goes against the Geneva convention somewhat.



The texture artists missed a chance for a Warfighter poster here.



Help! Come back! I don't think I want to play anymore.

operate in the dark, the terrorists don't even appear to notice. Perhaps they just eat a lot of carrots. Even damage seems warped. Your avatar is suitably fragile, for a realistic game, so you die with relatively few hits. However, since your foes are such bad shots it's often as if you've died randomly. Hell, its crimes against atmosphere deserved a boxout.

If you want a credible squad shooter, storm the door marked SWAT 4. If you want action with a dash of tactics, *Conflict: Global Storm*. If you want the thrill of modern combat then grab a *Delta Force*. If you want to throw away £35, then the assembled gentlemen and ladies of *Rainbow Six: Lockdown* await your command.

Kieron Gillen

Post no bills

Unsubliminal advertising



The key to a tactical shooter is atmosphere, so when a Bank is plastered in posters for the forthcoming *Ghost Recon Advanced Warfighter* game, you double take. It's laughable in the first level. When you're in middle-eastern streets and it's still there, it's openly ludicrous.

Needs 1.5 Ghz CPU, 512 MB RAM, 64 Mb DX9 3D Card supporting pixel and vertex shaders

Wants 2Ghz CPU, 1Gb RAM, 128MB DX9 3D Card, broadband connection

Net Gaming 1-14 (on dedicated server)

Discuss pcformat.co.uk/mag/rainbowsix

44% PCF says... "It's managed to create a whole new genre: the untactical shooter."

Also out By Dave James GAMING ROUND-UP



TubeTwist

Price £20 **Publisher** GarageGames
Web www.tubetwist.com

On first glance *TubeTwist* looks like another *Pipemania* clone, only this time you swap plumbing for quantum energy containment. While the idea is similar, connecting different sections of pipe to deliver the payload to the end, the execution is very different. There is no timer so you can experiment with energy transit and the physics allow you to leave sections clear of pipe, trusting that the Macroton balls will find their way through the spaces.

Needs 500MHz CPU, 64MB RAM,
DirectX compatible 3D card

Wants 1GHz CPU, 256MB RAM,
64MB 3D card

Net gaming None

78% PCF says... "No explanation does it justice. This is a gem."



Rescue From Rock Castle

Price £10 **Publisher** Global Software Publishing
Web www.gsp.cc

The hardest thing for a children's adventure game to do is hold the kid's attention. Playmobil's attempt feels just a little slow paced and too sparse to stop your child's mind wandering to what the dog's eating on the floor. You play as Alex trying to become a knight and rescue Laura from the clutches of the cheeriest evil wizard ever. Though the animation's jerky, it's all colourful and just about entertaining.

Needs 450MHz CPU, 128MB RAM,
16MB 3D card

Wants 750MHz CPU, 256MB RAM,
32MB 3D card

Net gaming None

62% PCF says... "Enjoyable games, but very slow paced."



1000 Games

Price £10 **Publisher** Global Software Publishing
Web www.gsp.cc

You've all seen them, those cheaply packaged bundles of code hovering around supermarket checkouts like vultures over bloated corpses. This one is no different except that it has stuffed several packs of arcade 'classics' in one box. If you're going to have that many games you want a decent interface to choose between them, but this one is a mess. But then, most of the games are so defiantly rubbish you needn't bother attempting to find them.

Needs 500MHz CPU, 128MB RAM,
32MB 3D card

Wants 750MHz CPU, 256MB RAM,
64MB 3D card.

Net gaming None

35% PCF says... "Repetition of the same bad games. Painful."



Infinite Kakuro

Price £10 **Publisher** Global Software Publishing
Web www.gsp.cc

If you'd have told us a couple of years ago that maths was going to become the new 'in-thing' to be seen doing on train journeys we'd have probably beaten you to death with our scientific calculator. Well, you'd have been proved right and we'd have to be all apologetic around your grave because it certainly has. Sudoku is so big even Carol Vorderman loves it, and this Kakuro is a similar challenge, based on crosswords and given a Japanese-sounding name.

Needs 500MHz CPU, 128MB RAM,
3D card

Wants 750MHz CPU, 256MB RAM,
3D card

Net gaming None

64% PCF says... "Play on the PC or print and go. If you must."

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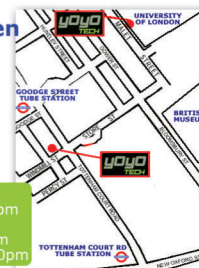
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"Creative's X-Fi is the new PC audio standard, and must be heard to be believed"

Combine the X-Fi with a media centre setup to attain audio nirvana.

EXCLUSIVE!

PC audio to the XTREME

High fidelity is no longer good enough; for a peerless PC audio entertainment experience you need Xtreme Fidelity



You wouldn't go to the cinema if the sound system consisted of two small speakers, one on either side of the screen. Likewise, you wouldn't expect to get the most out of a film on DVD just by playing the soundtrack through your TV set's asthmatic cans. So why settle for sub-standard audio when you're playing games, watching movies or listening to music on your PC? The astonishing thing

is that many of you reading this right now are doing just that. Maybe you're using your motherboard's onboard audio processor or a basic PCI soundcard that was on special offer the last time you upgraded or built your system. It's no exaggeration to say that you could be doing a lot better. Even if you've got one of Creative's earlier Sound Blaster cards, such as a Live or Audigy series, you're lagging behind in the PC audio stakes. The bar has been raised with the arrival

of Creative's new Sound Blaster X-Fi, the breakthrough new audio standard that has to be heard to be believed.

SONIC BOOM

Adding an X-Fi to your system will revolutionise the way you appreciate music, movies and gaming – and straight out of the box too. This is achieved via a combination of incredibly advanced audio enhancement technologies backed by the power of its all-new audio processor that's as powerful as a 3.4GHz Intel Pentium 4 chip and 24 times as powerful as the Audigy it supercedes. As well as enhancing and improving all of your existing audio content it takes games to a new level if they are fully optimised for X-Fi features, like *Battlefield 2* and *Quake 4*. The X-Fi

manages to do this by harnessing the power of its audio processor to apply the enhancements in real time, without impacting upon the overall system performance, to any piece of audio content on your PC, whether it's a game, an MP3, DivX soundtrack, streaming internet audio or CD. You can enjoy the performance benefits straight away; you don't need to wait for the technologies to be supported in future products or have to buy more expensive versions of movies and music that you already own.

Although the X-Fi exclusively supports EAX Advanced HD 5.0, enabling you to enjoy previously unheard-of levels of audio quality and surround sound immersion in games such as *Quake 4* and *Battlefield 2*, it also makes an immediate impact on your existing games, no matter how old they are. On headphones, the brand-new CMSS-3DHeadphone (Creative Multi Speaker Surround) technology externalises the audio by creating 10 virtual speakers around, above and below you and delivers the most realistic surround sound experience you've ever heard. The experience is so real you'll forget you're wearing headphones and actually provides you with a crucial in-game advantage: by allowing you to pinpoint your enemies from the sound of their footsteps or noises that they make. With speakers, X-Fi CMSS-3D uses virtual positions to place sounds anywhere around you, so your gaming audio is no longer restricted by the number or placement of your speakers.

In addition, the X-Fi is the first audio processor to enable 128-voice support in games like *Battlefield 2* and *Quake 4*. This means that in-game audio, where every sound effect occupies one voice, is much richer and more immersive. When a game like *Battlefield 2* can feature up to 64 players at once, each generating sounds, a regular soundcard simply can't keep up. With 128 available voices, though, you've got the power to experience twice the number of simultaneous sound effects.

Additionally, the X-Fi 24-bit Crystalizer automatically upgrades existing game soundtracks to Xtreme Fidelity. It'll convert all audio, of any bit depth, into 24-bit quality and then enhances it to make games sound more dynamic and realistic than you've ever experienced. It's particularly effective when you're listening to music; if you play a ripped MP3 on the Sound Blaster X-Fi, it can sound better than the original on the CD! By enhancing and intelligently monitoring the music that's being played, the 24-bit Crystalizer is able to replace the missing audio data that's lost

whenever music is digitised during the CD mastering process. In this manner all of your music can be experienced in 24-bit, 96kHz fidelity – you'll never go back to an ordinary home stereo again. But perhaps what's most impressive is that the X-Fi can do all this without placing any extra burden on your PC's processor. In fact, games like *Battlefield 2* can run up to 40% faster on an X-Fi-equipped system in terms of framerates when compared to one using onboard audio.

CRYSTAL CLEAR

Even more impressively, CMSS-3D and the 24-bit Crystalizer require no specific support in the game. As a result, virtually all current and future games will immediately deliver surround sound over headphones and benefit from punchier sound effects when played on a Sound Blaster X-Fi. This applies to music, movies and indeed any other audio that you play on your PC. MP3s, for instance, when combined with the 24-bit Crystalizer and CMSS-3D can actually sound more like DVD audio than the

"The X-Fi Crystalizer upgrades existing game soundtracks to 24-bit quality"

original CD from which they were ripped, and the X-Fi *SuperRip* utility allows you to rip 'up' to 24-bit/96kHz 5.1 files from CD instead of ripping 'down' to MP3 quality. If you're having trouble imagining how big a difference all this will make to your everyday PC audio, it can be summed up like this: it's as if you'd been listening to your games, movies and music with a blanket draped over your PC's speakers for all these years. The instant improvement gained by switching to an X-Fi setup really is that profound. So, what are you waiting for? Go X-Fi today. **PCF**

Now hear this

The best in-game sound ever

Gaming

Support for EAX Advanced HD 5.0 ensures that today's games sound better than ever, but the X-Fi also delivers enhanced performance with older titles. Its powerful audio processor can create a virtual surround sound effect over headphones as well as remix audio into 24-bit quality, all on the fly and without impacting the overall performance of your system.

Quake IV's battles take on a whole new dimension.

Music

The X-Fi 24-bit Crystalizer enhances all of your music on the fly, whether it's an MP3, WMA or ordinary CD. It can restore the audio quality that was lost when the CD tracks were compressed to MP3 and WMA and combined with CMSS-3D, can make them sound better than the original disc. You can also use the SuperRip facility to convert 16-bit stereo CD tracks into 24-bit 5.1 WMA files.

Movies

Turn on the 24-bit Crystalizer and your DVD movies will never have sounded so realistic. With support for Dolby Digital EX and DTS-ES, the X-Fi is an ideal component for a media centre PC and the CMSS-3D technology can turn a stereo soundtrack from a DivX movie into an immersive multi-channel experience that rivals that of a DVD. Combined with the Entertainment Centre software and remote, you can take control of your media from the comfort of your sofa!

* Supplied with Platinum, Fatal1ty and Elite Pro version. An optional upgrade is available for XtremeMusic version.

Audio creation

With the Sound Blaster X-Fi audio processor, you'll get the most advanced sound creation features and effects of any audio processor currently available, delivering pristine audio playback quality. It supports ASIO recordings with latency as low as one millisecond, up to eight different hardware effects and 24-bit SoundFont sampling, X-Fi's 3D MIDI functions provide amazing flexibility and recording results.

The X-Fi's controls are the most powerful of their kind, and highly intuitive.

MORE INFO

You can find out more about the Creative Sound Blaster X-Fi and download three exclusive demos that showcase the X-Fi's power at www.europe.creative.com/xfi, so what are you waiting for?

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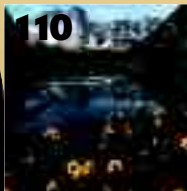
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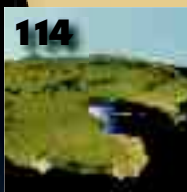
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>> GRAPHICS World Builder 3

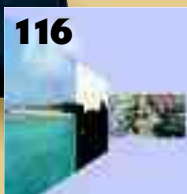
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114

>> GAMES Battlefield 2 Map Editor

Run around in a warzone of your own creation with Battlefield 2's powerful official editor. We'll teach you how to build a level from scratch that will produce thrilling battles with whatever devious twists your conflict-addled mind can conjure. From realistic theatres of battle to surreal, game bending landscapes, there are limitless possibilities.



116

>> CODING REALbasic

Our tutorial on an interesting way to display your family snaps in a virtual environment continues this month, with the creation of a true 3D world that you can move around. The code required is available on the disc, so you should have your answer to the Tate Modern up in no time at all. Now all you need is a virtual patron to shush you when you cough.



118

>> OFFICE eDoc XL SE

If you're anything like us, your office probably looks like an explosion in a paper factory, with A4 sheets littering every inch of desk (and even floor) space. Well at least your hard drive needn't be quite so chaotic as eDoc is here to organise you to bits. By creating a database for your files, it enables you to perform advanced searches to find lost documents.

PLUS

119 >> GAMES

Continue shaping a beautiful 3D pinball table, without so much as a splinter, using this second part of our Future Pinball tutorial. This month we look at the coding side of the program, based on Visual Basic, and show you how to add score bonuses to your targets and light up relevant sections of the

table. You'll be racking up those point multipliers in no time at all.

120 >> GRAPHICS

Do you have a ropey home video that needs some serious sprucing up with 3D titles or cutscenes? 3D Plus 3 should be your first port of call to do so. If you want to produce something stylish, but lack a Pixar employee's level of knowledge about rendering CGI, this should suit your needs perfectly.

122 >> GENERAL

If rubbish Saturday evening talent programmes have taught us anything, it's that every Tom, Dick and Darius thinks he can sing. Unfortunately not everyone is blessed with the gift of the warble (and they often seem the keenest to be pop stars). Luckily, *Singing Coach* is here to turn the tone deaf into the tone deft. If you have a voice that could shatter glass at 50 yards, this is application for you.

Nick Mohr on the history of 3D rendering; where it came from and where it's going

Back in 1986, while we all dreamed of one day owning an Amiga, the rather clever boffins at Caltech devised what is known as 'the render equation', an algorithm developed to render light in computer-generated scenes. Although

the equation was hardly new, having been used in radiating heat transfer for many years, it stands as a seminal moment in CG history. Even today it is

seen as the most theoretically perfect method of rendering light.

So the theory has always been there, and it's good, why can't we just use it and be happy with that? The answer is simple – computer power. Processing one beam of light to correctly cast shadows, illuminate surfaces and generally

illuminate a scene up isn't much of a problem. But light doesn't work so simply; it's like a wave, splashing onto surfaces, changing colour and

eventually becoming an infinitely complex system, endlessly reacting to its environment. The solution is to limit the amount of data processed; of course this in turn affects the quality of the render.

THE FUTURE

It's indisputable that rendering techniques will improve in relation to

computer power, but CG is rapidly shifting away from static imagery to real-time animation.

Here a whole new set of problems occur. Light has to be calculated for

every frame of a scene and some lighting quality must be sacrificed.

The future appears to lie with image-based rendering, a complex technique that relies on real photographs to create the geometry and appearance of a given scene, producing hitherto unprecedented levels of realism.

Have your say forum.pcformat.co.uk



Fast vision
The incremental tool buttons allow you to switch between rendering views quickly, handy to view small changes without rendering the scene again.

Rendering
The main toolbar at the top has all the essential shortcut buttons, including changing rendering views and the all important undo button.

View ports
The basis of any 3D software. These views show your scene from all directions, and you can customise them by right clicking on any planes title.

Creationism
A collection of tools used to build just about anything usually spawned by Mother Nature, beasts excluded. Rivers, plants, trees and roads can all be found here.

Library
These are all the assets at your disposal. This includes prefabricated plants, trees and terrain, along with essentials such as textures and skylines.

Track editor
This section manages the overall animation of a scene. Similar in functionality to any video editing software you may have used.

"CG is rapidly shifting away from static imagery to real-time animation"

Get back to nature

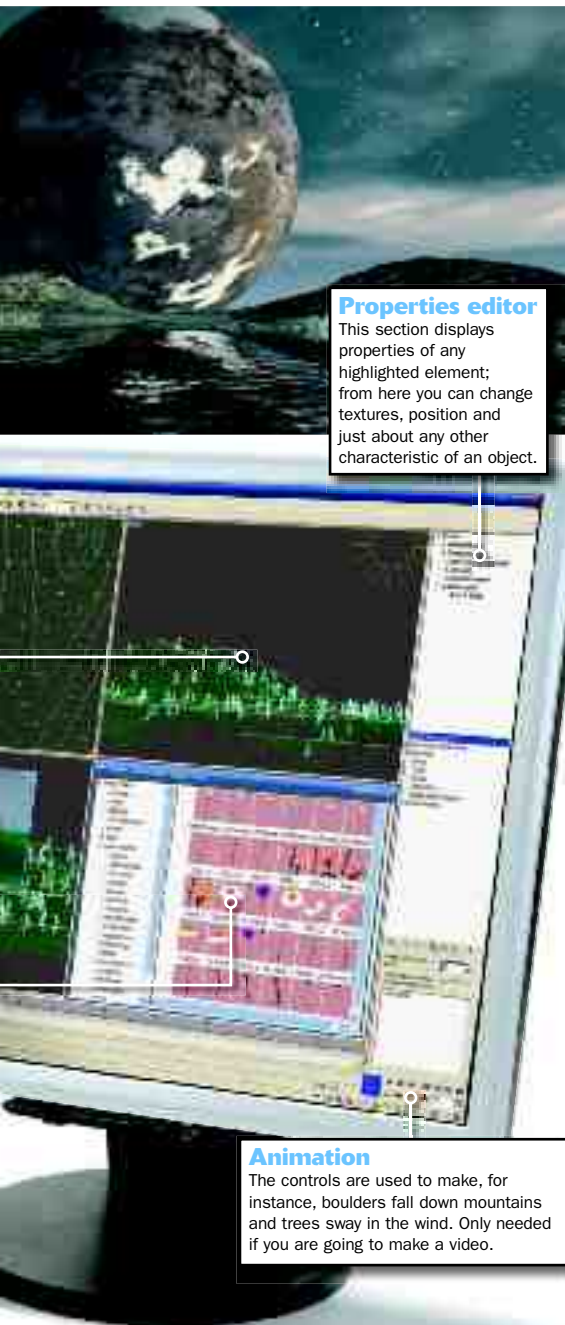
part
12

Create your own vision of paradise with *WorldBuilder 3.6*, and Nick Mohr

Taking pride of place on this month's coverdisc is Digital Elements' *WorldBuilder 3.6C*, possibly the most comprehensive terrain and scenery builder in existence. Anything you see in nature can be duplicated with this software, from towering mountain ranges to endless golden

beaches and azure seas. What's more, a huge variety of tools are included that make building individual objects such as rivers, lakes, trees and vegetation simple and easy.

Although very powerful, *WorldBuilder* cannot create buildings or indeed any real man-made structures, so you can forget about rebuilding the



Properties editor

This section displays properties of any highlighted element; from here you can change textures, position and just about any other characteristic of an object.

Animation

The controls are used to make, for instance, boulders fall down mountains and trees sway in the wind. Only needed if you are going to make a video.

Hoover Dam or the Humber Bridge and concentrate on the Garden of Eden. Which, let's be honest, is a far more noble cause anyway.

LET'S GET STARTED

In this tutorial we'll guide you through most of the basic principles of landscape building, such as creating terrains, adding vegetation and texturing the land. *WorldBuilder* has a huge amount of options and features to help create your scene, many of which take dozens more pages to adequately describe. Pay particular attention to the Properties box – this controls all the objects in your scene and can greatly influence the look and feel of the landscape. You should also take your time to explore all the library files; it's much easier to build a scene when you already know what assets you have at your disposal.

If you are familiar with other 3D packages, you'll feel immediately at home with this. It has the now-standard four-port view and navigation

Navigating the world

Creating landscapes is fast and simple.



1

The default template after running *WorldBuilder* presents a simple vista containing the ground, light, sky and camera – all the basics to build up a world. You can immediately preview your world by selecting any viewpoint and clicking the **Render** menu.

2

Double-clicking **Camera01** in the properties plane will bring up the specific camera view. This can be rendered in the same way as any of the orthogonal viewports. You will notice in the **Sub Properties** window that many different parameters can be altered.

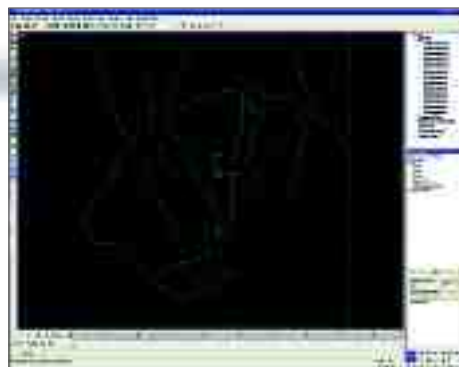


3

Viewports can be panned around by middle clicking, whilst a spin of the mouse wheel zooms in and out. **[CTRL] + [F9]** will allow any viewport to be rotated, but you must be in one of the first three render modes. A right-click will send you back to the trusty **Select** mode.

4

Click **Library→Open Library** and select **skelet20.odt**. This contains prefabricated terrain 'skeletons', which you can use to quickly build scenes. For this tutorial, locate the file **hills07** and drag it over into one of the 2D planes.



5

Any object can be rotated, scaled or moved by right-clicking the mouse. In the case of these new hills, make sure all skeleton lines are selected by choosing the **hills07** group in the properties view. Drag the hills to the centre of the green box.

6

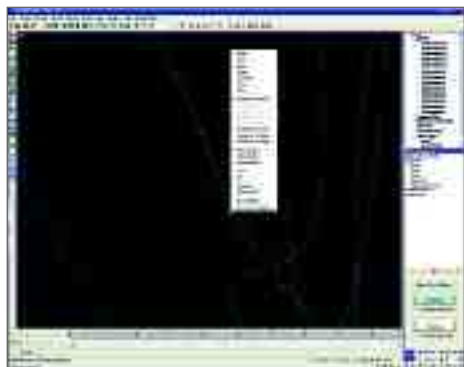
The library assets included with the software make it easy to quickly add detail to your world. At this point it is sensible to change the perspective view to camera view and adjust its position to your point of interest; this will render things much quicker.

Turn the page for the rest of the tutorial...



Detailing your world

Bringing a 3D scene to life



1 Skeleton lines can be added individually by pressing **[F12]**. These can be drawn in any viewport, but to make life easier we recommend you delete useless nodes and take your time adjusting them. *WorldBuilder* will automatically deform the terrain for you.



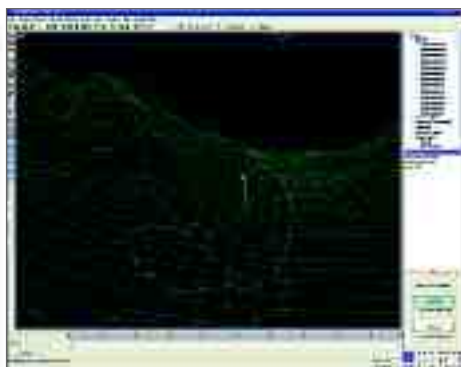
3 Alternative materials can be added to specific parts of your scene by creating areas. Expand **Landscape0** in the **Properties** box, then locate and click the **Create Area** button, found on the top left. Sketch out a circle, and right-click to finish your area.



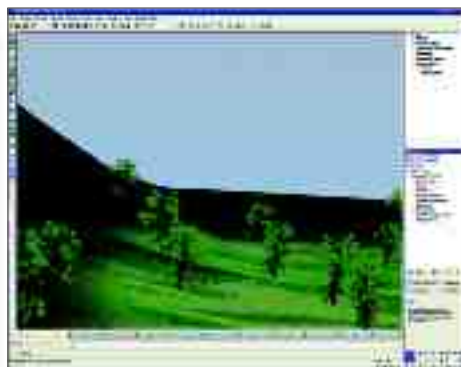
5 New materials can now be applied to areas by dragging them from the library to the area's name on the right hand side, found under **Landscape0**. You will notice new properties appear for each object that is added – it is pointless having more than one material.



2 Materials can be added to scenes in the same way as skeletons are. Open **texture30.odb** from the library; select **2D Textures** and drag a material into any viewport. Performing a draft preview render will allow you to see the texture in all its glory.



4 Area lines behave in exactly the same way as skeleton lines but must be fully enclosed; *WorldBuilder* will automatically complete the area for you if you fail to do this. Drawing areas in the 3D view is normally the most convenient way to create them.



6 Grass, flowers and other details can be added in the same way. There are a huge amount of options that can customise the scene. You should bear in mind that complex scenes can take a long time to render, though.

ON THE DISC

WorldBuilder

Create your own 3D environments. Add rivers, forests and mountains – it's all possible with this powerful yet simple application.
www.digielement.com

There's also a wholly online version.

www.smallblueprinter.com

The GIMP

The open source, free alternative to *Photoshop*. Perhaps not quite as intuitive, but you'll be surprised at just how many expert-level features this image application contains.
www.gimp.org

Garden Planner

Perhaps a tad more practical than other software, this application does is a no-nonsense design tool.

■ scheme as other packages, each of which can be customised to your preferred layout.

The primary method of terrain creation in *WorldBuilder* are skeleton lines – these rather obscure objects dictate how the landscape is formed. It's easy to think of these as contour lines shaping the height of the land and indeed, they can to a certain extent be used in this fashion. More accurately though, skeleton lines are made up of nodes that can be placed along any line and are the real underpinning of terrain creation. Imagine the terrain as a large elastic sheet – the nodes are like sticks pushing the terrain up or down with the skeleton lines supporting what is in between. Nodes can be moved in any directions, and can be added or deleted by right-clicking on the appropriate skeleton line.

Creation of scenes can quickly get very complex. Apart from being hard to navigate around the viewports, render times can increase enormously, and it's not uncommon for scenes to take hours or even days to finish. In this tutorial most scenes should not take more than a few minutes to render completely, depending on your PC's system specs. You should really avoid doing a production render until you are finished with the scene. OpenGL renders are the best compromise during scene creation – although they do skip textures and miss some objects, you can get a good idea of how your terrain is looking. During scene navigation and general building the best bet is to stick to simple wireframe rendering, which is why this is the default view we'll use during the tutorial. **PCF**

Upgrade

PCF readers can upgrade to **WorldBuilder Genesis 4** for \$79 (normally \$199), or to **WorldBuilder Pro 4** for \$499 (normally \$699). Email the address below and mention **PCFormat** while ordering.
sales@digielement.com

NEXT MONTH
EXPAND YOUR HORIZONS
WE'LL ADD WATER TO THE SCENE
AND TAKE A CLOSER LOOK AT
LIGHTING EFFECTS

Michael Lewis and Dave Hart introduce two simple ways to make *Battlefield 2* even better

BF2 Combat: The Battlefield 2 Tour of Duty, online at www.bf2combat.net, is a new way to play *Battlefield*. It revolves around member-commanded armies which meet twice a week in huge 12-hour battles. These affect the outcome of the war and impart members with the sense that they're doing something constructive. One of the community's most innovative aspects is member-led training, which will teach you things about *Battlefield 2* you definitely didn't know. For hardcore fans of the series, **BF2 Combat** offers equally challenging options, like Army Ranger School, led by ex-Army Rangers, and Combat Medic School. The Tour has a large European following, and Euro-only divisions will soon be available. There are also dozens of ranked servers in Europe, costing gamers less than £2 a month each. The Tour also offers Special Forces junkies additional trigger time, and will allow members to use the two new booster packs when they're available.

The **BF2 Ranked Server** program, at www.bf2rankedservers.com, is the only EA-endorsed ranked server administrator. With over 11,000 slots running, it's doing a phenomenal, not to mention extremely popular, job. If you're interested in improving *Battlefield 2* or just want to play on a server without the irritating newbies or hoggers, we recommend you check out their site.



www.fcombat.net is also an ideal place to get tips on *Battlefield* mapping.

Have your say forum.pcformat.co.uk

Design maps for Battlefield 2

part
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Way back when, a game called *Battlefield 1942* captured the hearts of gamers by delivering non-stop action by land, sea, and air. EA also took us back to the Sixties with *Battlefield: Vietnam* before taking on modern day warfare with *Battlefield 2*, the series' best tour of duty yet.

There's a problem, though. *BF2* doesn't include a huge number of maps, and the recent expansion pack, *Special Forces*, only introduced

another eight. Fortunately for *BF2*, DICE Canada built a mapping package, so you can create your own playgrounds. It's brimming with features, but it's not easy to master, so, we're going to design a small island map. We teach you how to use the editor, create a height map, texture and paint the level. For experienced mappers, Token's terrain painter, *BF2 Map Editor*, is on the disc. We've also selected some lavish maps created by veteran mapper ALFFx for deconstruction. **PCF**

Military mapping

Create your own theatre of war in moments

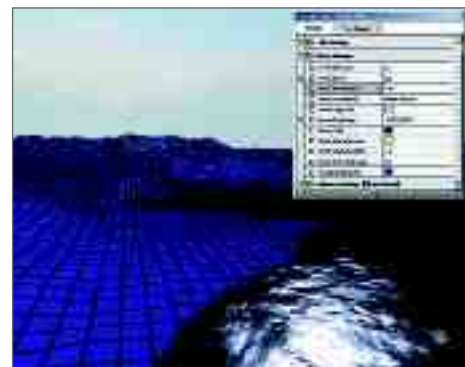


1 Over the next eight steps, we will help you to create a simple island map like the one shown above. We will split the island into plateaus with a limited number of paths. It helps to have an image of what you want your island to look like in your head before you start painting.



2 Once you outline your terrain, use a small brush for detailing. Apply the smoothing brush to paths where players will walk. Flatten the terrain with the level or platform brush where you will place buildings. Use a modify brush and the smooth brush to round off hard edges.

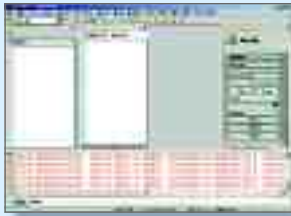
"We'll teach you how to use the map editor to create and paint your own playable level of Battlefield 2"



6 Paint the ground with a grass colour and detail texture and the steep hills with a rock color and detail texture. Creating realistic looking terrain is painstaking, but with practice makes perfect. Once you have painted an area, click "Set Low Detail Texture", then "Generate Low Detail

The basics

Your first steps to creating a believable landscape



1

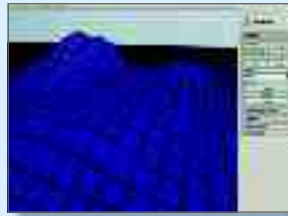
The **BF2** editor contains several context sensitive windows.

Below the menu is the toolbar, and on the right is the editor window. The toolbar and the editor work together. The **Tweaker** bar lets you change options for the resources.



2

Start by selecting the **Terrain Editor** from the toolbar, then **New** from the **File** menu. We recommend making a small map with a small scale. **Size** determines the dimensions of the height map, and **Scale** determines the size of each square in metres.



3

Before starting, select **Grid Mode** from the **Render** menu. Use the **Modify** brush to raise and lower terrain. The level and platform brushes are similar, but right clicking with platform lets you set terrain height. Use **Random** to make terrain more realistic.

ON THE DISC



BF2 Editor Guide

Check out the official guide to modifying environments in *Battlefield 2* which is part of the *BF2* user manual, for further insight and inspiration. You can also download it from www.ea.com/official/battlefield

Mountain Stream

This is another map designed by *BF2* devotee ALfx, and is an example of what an editor can do with a confined space. The map feels immense during play. www.totalbf2.com

Jungle Stream

ALfx's verdant, tropical map contains lush terrain, great water effects, and is a well balanced map. It's full of neat touches, and worthy of emulation. www.totalbf2.com

World painting

Token's *BF2* *Terrain Painter* lets you take a height map and auto generate three types of terrain. This frees you to continue blending other elements yourself. www.battletechmodproductions.com

NEXT MONTH ADD TO YOUR BF2 MAP

LEARN TO PLACE COMMAND AND SPAWN POINTS, AND CONTINUE ADAPTING THE TERRAIN.



3

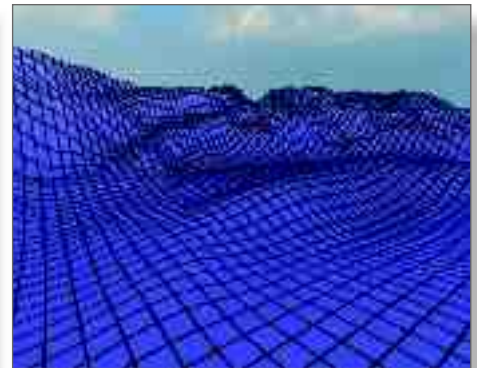
Our island needs water, which you can set in the **Tweaker** bar. Raise the water level from the default -1000, change the

WaterColor to a dark blue, the **WaterSpecularColor** to a light blue, and set a **WaterAnimSpeed** for a ripple effect.



4

To texture in the editor, first define layers in the resource bar. The editor supports six different layers per map. First you have the colour map, with a low resolution texture. You then set a detail texture and a material, which determines the layer's physical properties.



5

Now you can start painting. Choose **Both** in the Editor window to make sure you are painting to both the color and detail maps.

Start by using a full power, large brush and use a smaller, weaker brush for blending. Finalise your painting with the **Merge** button.



7

Texturing a whole map by hand is a slow and time-consuming process, but there are tools out there that can make your life easier. We tried out many programs but the easiest one we found is *Token's BF2 Terrain Painter*, which is simple and will save you hours of work.



8

Now for some vegetation. Press **Render→Draw Undergrowth** and **Render→Draw Overgrowth**. To create new undergrowth materials click on the **Resource** bar. You also need to define a mesh, a texture, size density and distribution of each element or group of elements.



9

Take a moment to savor what you've accomplished. Try looking at a stock map or one of the ones we put on the disc for some ideas and techniques. Also read the *BF2* Editor guide for help with the tool, and check out the mapping community at www.bf2modding.net.

Make a 3D photo browser

Sam Rowlands shows you how to complete your virtual viewer in *REALbasic*, allowing you to float amongst your beautiful images with all the serenity of a contemplative butterfly trapped inside an upturned box of photos...

Set vertical locations

Same as the code for Horizontal Location, except for the object's Vertical location.

Set picture's orientation

Ensures that the chosen picture is facing in the right direction to be seen.

Convert from degrees to radians

The Yaw method requires Radians and not degrees, so to use degrees (more understandable than radians) the value needs to be divided by 57.2958

Last month, we started work on a virtual image 'gallery', and now it's time to add some neat touches to our project. There is no point in having a 3D gallery if there is no way to move around your virtual world, so we must come up with a way of negotiating it. We've decided to use a navigation system that is very similar to the ones used in first-person shooters, where the mouse is used to look and the keyboard is used to move around. Once that's working, the next decision concerns how we plan to lay out the images.

GALLERY TO GO

For the sake of clarity, we've decided to arrange the images as if they were in a real art gallery, albeit one without any doors or windows. It is also vital that the images are rotated so that they look as if they have been hung on a wall. The thing to do is to manage the images in the gallery. The project will be adapted so that it will store the locations of the image files within the application. When you quit the program, it will create a text file containing all of the source files' locations. On launching of the application, the app will check for that text file, and if it exists, the images will be loaded into the gallery exactly as they were. Finally there is a mechanism for removing the images from the gallery. Included with the archive is a file called Photo Explorer.rb. This is the source code from last month's section of the project and the starting point to this month's workshop. Also on the disc is the code that is required to complete this part of the tutorial. This code is split into sections so that you may more easily slot the relevant code in at the correct point. **PCF**

Photo Gallery

Lets walk around our photos



1 Open last month's project and save a copy as Photo Gallery 3D. In the **Project Window** create a new class called PhotoObject3D and set its Super to Object3D. Open it up and add a property called ImageFilePath as string, then close the window.



2 Double click **Window1** and use the properties to set its name to MainWindow and its title to Photo Gallery 3D. Right click the bottom right of window and select **Edit Code** (MainWindow) then **KeyDown**. Enter the code from Source Code 1, which is on this month's coverdisc.

"There's no point in having a 3D gallery if there's no way to negotiate it"



6 Replace code in DropObject event with Code Section 5, so it tests for enough room before inserting any images. Replace code in MouseDown with Code Section 2 and MouseDrag with Code Section 6. These allow for new navigation and to test for a selected image.

ON THE DISC

LIKE TALKING IN CODE? FIND A WHOLE HOST OF RELATED APPS ON THE DISC



Set horizontal locations

Set the Horizontal location of the object (X axis), use the property "Location" to determine the Horizontal location of the object.

Store object in memory

Stores the object it relates to in memory for saving out later.

Scale picture

Shrinks (or enlarges) picture to max 512x512

Create picture's mask

Creates a solid black image the same size as the picture, this will be used as a mask when displaying the picture in 3D space.

Create new PhotoObject3D

Creates a new object and adds the picture and the file path to the object.

ON THE DISC

REALbasic2005

The basis for this workshop is the definitive cross platform development software, with more features than you can shake a large, pointy stick at.
www.realsoftware.com/download/windows

Blender 3D

A fully functional 3D modeller that is open source and free to download. Requires RB3D utility to convert files to work with your REALbasic projects.
www.blender.org/cms/Blender.31.0.html

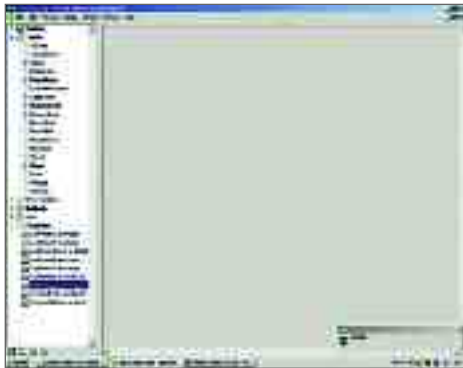
RB3D Utility

A much needed tool used to convert .obj 3D files into 3DMF so that they can be recognised by REALbasic.
www.miensoftware.com/files/rb3dutility.zip

Inno Setup

Required for distributing any REALbasic projects on Windows. Provides a standard Windows installer and un-installer for your compiled REALbasic applications.
www.jrsoftware.org/isdl.php

NEXT MONTH
FINISHING TOUCHES
LEARN HOW TO TURN YOUR GALLERY INTO A CONVINCING 3D IMAGE VIEWER



3

Add the following properties MyPhotos(23) as PhotoObject3D and SelectedPhoto as Object3D to the window (select **New Property** from the **Edit** menu). MyPhotos(23) is a collection of PhotoObject3D objects, it's used to manage the images.



4

Find the **AddPhoto Method**, then double click its name in the list and change the parameters to read p as picture, FilePath as string, Location as integer. The code in the AddPhoto method needs to be updated with the code in Source Code Section 3.



5

Add a new method called EnoughRoom with the return type **Integer**, copy the code from Source Code Section 4 into the new method. This new method will check to see if there are free slots for images, if so it will return the first one it finds.



7

So the program can remember which photos to open when it's launched, Code Section 8 needs to be inserted into the 'Close' event. This will save the locations of the image files to a program-readable text file when your 3D gallery is exited.



8

The program then needs to check and see if the file exists when it is launched, the code in Source Code Section 7 will do this, so replace the code in the Open event of the window with the code from Source Code Section 7 to perform the check.



9

This is the most exciting step, select **Run** from the **Debug** menu. When the window opens drag some images into it, then click on the **Full Screen** button and explore. Quit the application and run it again to check that it saved the chosen images.

Find your files

Richard Cobbett roots around his hard drive with *eDoc XL SE*

Forget the paperless office – every desk around here is piled high with paper, discs and files. The only things that look worse, war-torn cities and dogs' bottoms aside, are most of our hard drives, with documents scattered to the four winds on a whim and a prayer. *eDoc* can't stop you being disorganised, but it can make sure that you never lose those files again.

At heart, it's a really big database. Instead of browsing through your hard drive in search of documents, images and any other files, you can run a simple search for whatever takes your interest and have it served straight out of the archive. You can preview files before opening them, categorise them and otherwise customise how the virtual space works, along with keeping track of your contacts (although you'll have to upgrade to get some of the more advanced features, such as the option to scan in your business cards).

The main difference between *eDoc* and general search tools (such as *Google Desktop* and *Copernic*) is that it only concerns itself with the information you import into it – rather than dealing with things on a file by file basis, you have one central repository for all your bits and pieces. They're two very different styles of working, with *eDoc* proving better for managing a set of subjects, rather than tracking down individual snippets – using it accordingly will make it considerably more useful. **PCF**

"Instead of browsing your hard drive, you can run a simple search"

ON THE DISC

Avast Home Edition

Protect your PC from the threat of viruses...for free. One of the most powerful tools you can find, especially at this price point.

www.avast.com

Steganos Security Suite

Do you have files that need to be hidden forever from prying eyes? Steganos keeps your secrets secret.

www.steganos.com

Max Type Lite Typing Tutor

If u type liek this u nd hlp. Mx IITE si a RG way to lrn tiping today. Don't ask, just get the program.

www.askmesoft.com

SoundyMouse

Haven't you always wanted your mouse to make noises as you drag it around the desktop? What do you mean 'no'?

www.networkactiv.com/SoundyMouse.html

There are several different versions available, including some geared entirely towards business cards.



Upgrade

Visit the official site to pick up one of the latest versions – from *eDoc Plus*, for managing documents, all the way up to the advanced *XL* edition. The comparison chart on the site explains the differences between versions.

www.edocplus.com

Getting started with eDoc

However you sort your files, the basics are the same



1

First things first: before installing *eDoc*, take the time to sort out your files. Put everything into directories, ideally under My Documents, prune files you don't want, dig up old ones that need to be added... everything to ensure you have a clean system to import to the database.



2

Installation is a simple enough matter, with only one minor sticking point – if you don't have Office installed, you'll get this sinister sounding error message. Or not. Just click straight past and *eDoc* will install anyway. You don't need a serial code for this version.



3

Once installed, start opening files. That earlier preparation will serve you well now, as you point *eDoc* towards each folder in turn and suck their contents into the database. Be careful of just selecting My Documents, as this will give you every single file – even ones you don't want.



4

Select **Full Text Retrieval** from the File menu. *eDoc* has a lot of features, but this is undoubtedly the most useful – scanning through supported files and building up a record of their contents for searching. This makes it easier to dig up the exact document you need from a folder.

Virtual pinball

Liam Kavanagh earns his bonus with *Future Pinball*

part
12

Last month, we put together a basic table, complete with targets to aim for. But targets are not much fun unless they do something, so this month we're going to help you with the other side of *Future Pinball*... the script editor. Our tutorial will show you the basics of creating a touchstone of pinball, the bonus multiplier, but there's much more you can do with this powerful tool.

It may seem daunting at first, but if you've got even a little bit of programming experience you should find yourself creating bonuses and special events in no time. If you have no prior programming experience you should still be able to find your way around, as the language is based on Microsoft Visual Basic, one of the most accessible languages around. The included script is nicely annotated, and for extra help look at the script that comes with the Sci-Fi classic table. By comparing the values of the items on the table to their code references, figuring it out will be a breeze. Certainly easier than hitting the jackpot on your last ball... **PCF**

Pinball controls

The keys for playing your creation

| | |
|-------|-----------------|
| F5 | Play table |
| 5 | Insert coin |
| 1 | Start game |
| Enter | Pull Plunger |
| Shift | Flippers |
| Z | Nudge Left |
| / | Nudge Right |
| Space | Nudge Forward |
| A | Special 1 |
| ' | Special 2 |
| TAB | View Scoreboard |

ON THE DISC

Future Pinball

The software used to create your tables. It is well supported and regularly updated, so check the web-site.

www.futurepinball.com

The GIMP

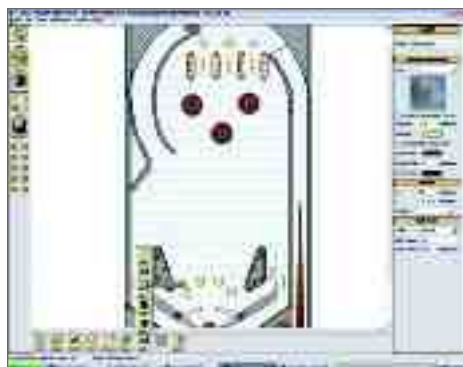
You'll need images for your table, otherwise it'll look pretty dull. This fully featured (but free) graphics program should be all you need.

www.gimp.org

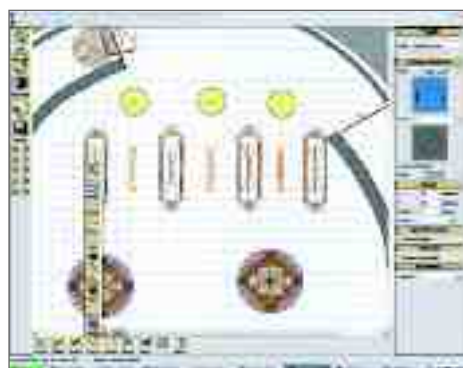
Windows Scripting

Microsoft's site contains guides on how to learn scripting languages for the Windows platform, including Visual Basic (as utilised by *Future Pinball* in this tutorial) and also code examples. There's even tools to help you develop your own code.

msdn.microsoft.com/scripting



1 First things first, we need to put down some lights to show the current multiplier level. Select **Lights→Round** and put four lights around the bottom of the table. Change the names of them to **LightBonus2x**, **LightBonus3x** and so on. Place three lights above the three lanes and call them **LightTopLane1** to **LightTopLane3**.



3 We've chosen the traditional get-it-down-all-three-lanes-at-the-top approach to getting a multiplier. First place a trigger down in the middle of the three lanes. Chose **Control→Trigger** and put down three. Change the model of all three to **Trigger-Wire-T1**. Finally, name them, from **TriggerTopLane1** to **TriggerTopLane3**.



5 Finally, add the **Step 5** code to the script. This checks to see if all the lights are lit. If they are, it increases the bonus multiplier variable by one, and then deactivates all the lights. You will also need to define `constMaxMultiplier` constant as 5 rather than the default 6 – it's located at the start of the script.



2 Open up the script window and using the annotations, find the code for setting the bonus multiplier level. Replace it with the code that you can find in the games workshop toolkit on the disc (each step is labelled). This scripting will check to see what the current multiplier level is and activate appropriate lights for when it changes.



4 We need to add some code so that when the ball rolls over a trigger the appropriate light will be activated and you will receive some points. They will also check to see if all the lights have been lit. Put the code labelled **Step 4** from the disc into your script at the bottom. We'll have a pinging and flashing table in no time.



6 The script is done, so play through the table to test it. You might want to consider adding some decals over the bonus lights to show their multiplier level (2x, 3x and so on). Decals need to be imported via the texture manager. Check the included documentation for information on how to do this. Happy pinballing!

Create a 3D cutscene

3D isn't solely for creating painstakingly detailed films and games – you can also use it as a fun way to quickly enhance your videos or web site. Best of all, you don't need a degree in vertex manipulation or spline technology to participate. Mat Broomfield explains how...

You can really spice up your home videos by adding a custom title page. Lots of video programs let you do scrolling text, but we're going to show you how to add a bit of 3D animation so that your videos stand out from the crowd. The best thing about making 3D video is that you don't just have to use it at the start and end of your home movies – you can make 3D objects to overlay your 'real' video, and you can make lively titles that are bound to impress.

In this project, we're going to make a quick title logo for an imaginary local league football team video. Maybe you've filmed your Sunday team through the year, and all you need now is a flashy intro to show off your skills. We'll be creating a bit of text, designing our own team logo, and animating some 3D objects to ensure that the whole screen is bouncing with activity – just the kind of opening you need to get the viewers interested. Incidentally, the techniques in this tutorial can easily be adapted to create your own web banners or animated emails.

3DPlus is a full package, and you can use it once without registering. After that, you'll need to register by calling a freephone number. Select Registration Wizard from the Help menu then phone 0800 376 7070 to receive your free registration number. **PCF**

Upgrade

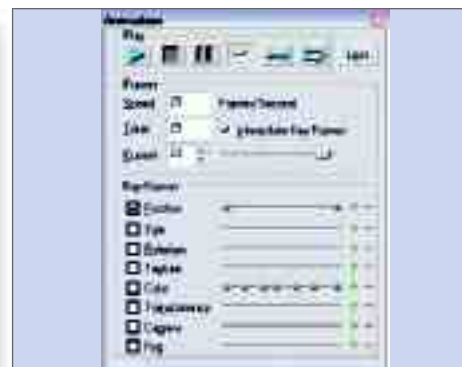
Upgrade 3DPlus 3 to the much more powerful ImpactPlus 5 (worth £59.99) with a saving of £20! For details, phone 0800 3767070 (freephone), or 0115 9145454 quoting RO/PCF/3D3/0206 by the 25th March. www.serif.com/impactplus

Introduce yourself

Creating a unique intro by the numbers



1 Choose **Start from Scratch**. You'll need to set up the resolution. Go to the File menu and select **Scene setup**. Because we're designing for video, we need it to be TV resolution. Deselect **Keep Aspect Ratio** then type 720 in the width box and 576 in the height, then click OK.



2 If the animation window is not visible, go to the **View→Toolbars** and turn on **Animation**. In the animation window, type 25 into the frames per second box. Entering 25 in the total box would give you a one second animation. You must specify how long the animation will be at the start.



6 Select the **Text** tool. Type in some text and choose a font that you like. Click **OK**. You can use the **Bevel** tool to refine the text if you like. Position the text below the logo. Click the **Background** tab, then go to the **Images** section and add a water background.

The creation toolbar

This contains the tools for creating and manipulating your cameras, objects and text.

The Planes window

Here you can turn reference planes on and off, as well as specifying how the planes should look.

Here is an extruded logo

Notice the bevelled edges and the material. You can create text as well as graphics like this.

An animated football

The ball has been animated using key frames. The model comes with the program.

Create 3D animations



The Animation Window

This enables you to set up your animation. It also provides a key-frame animation system. You specify key frames and the program works out the (in be)tweens.

The Library area

Here you will find an array of ready-made objects, materials and animations, as well as lighting presets and bevel controls.

A watery background

Use one of the supplied backgrounds or your own image. Leave it black if you want to overlay your animation on your own video.

Animated text

This text has been created with the text tool. We used the animation library to apply movement and a colour strobe.

ON THE DISC



3DPlus 3

A great 3D program that enables you to build and animate in seconds. Free registration. Registration includes free extras CD. Phone 0800 376 7070 to register your copy.
www.serif.com

RasterVect 10.4

Convert your scanned drawings into WMF vector images. These images can then be imported into 3DPlus and converted into 3D models for animation.
www.rastervect.com

3D Canvas

A much more powerful (but complicated) package that enables you to actually build your own 3D models.
www.amabilis.com

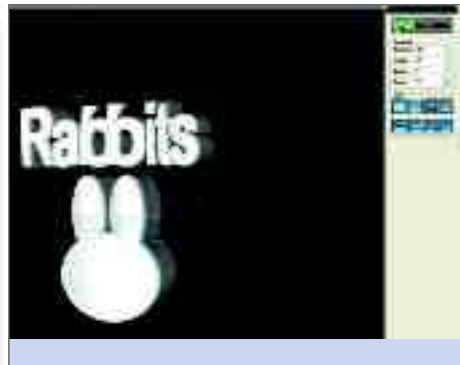
Stop Motion Pro

Create old-school Aardmanesque stop motion animations with your camcorder and toys or clay models.
www.stopmotionpro.com



3

Click the **Hammer** to go to the 3D Workshop. Using the four drawing tools at the top of the left toolbar, design the outline of your club logo. If you draw multiple shapes, they will all be treated as a single object. Click **OK** to transfer the object to your scene.



4

Use the free orbit tool to change the camera view to a slight angle. Click the **Bevels** tab at the right of the screen. Make sure your logo is selected and click one of the bevel types. You can now adjust the bevel properties – large values can produce interesting results.



5

Click the **Materials** tab, then click **View Gallery**. Scroll down the list of groups until you see **Marble** and select it. Choose a type of marble and drag it into the editing window to drop it onto your logo. You can click the materials tab again and adjust other properties if you like.



7

Select the **Gallery** tab. Scroll to the top of the list and select **Animations** then **Fly Ins and Outs**. Make sure the text is selected and choose the first animation. Click the play button in the **Animation** window to see the results. Try adding a colour strobe from the **Characters** section.



8

Click the **Models** tab and choose a soccer ball from **Sports**. Move the ball behind the logo and drag it to the bottom left of the screen. Click the **Position** check box, then the plus symbol. Change the frame to 25 and click plus again. Drag the ball to the other side of the screen.



9

In the **Planes** window, click the **Hide/Show** button to turn off the ground plane grid. Select **Export Animation** from the File menu. Choose AVI where it says Save as type. Enter a file name, then **Save**. Ensure that the Codec is left on the default, Cinepak. Click **OK** to save your work.

Sing like a star

Some like to teach the world to sing, but Kieron Gillen thinks it should teach itself...

Singing and using a PC are very similar processes. When your PC goes wrong, you'll blame defective hardware, but it's usually faults that are pure user error. It's the same when you sing off-key. With expert guidance, though, anyone can learn to sing. If *Singing Coach* – the first few lessons of which are on the disc can help a tone-deaf PCFormat games correspondent we're confident that your melodious voice will soon be the envy of men and women alike. Oh yes.

A If you don't want to sit through *Singing Coach*'s in-depth talking microphone and hot punk girl explanation of how everything works, here's where you start. This is where you select from the available songs and singing exercises to practice. In this case, *Twinkle, Twinkle, Little Star*. Rock on, why don't you?

C These basic controls get you started. Press **Play** to hear the arrangement, **Record** to store your attempts of making tuneful noises. **Stop** to format your hard drive.

D The thin yellow line marks the song's progress. If you want to sing vaguely in time, you should follow this. Alternatively, feel free to experiment in jazz improv. It's your piece of software, man, we're not here to judge.

E Tools for fiddling with the arrangement. While the initial tests will put it in a correct key for your voice, you can manually alter it here. Also, drop bits of the arrangement to create dub-space in your performances.

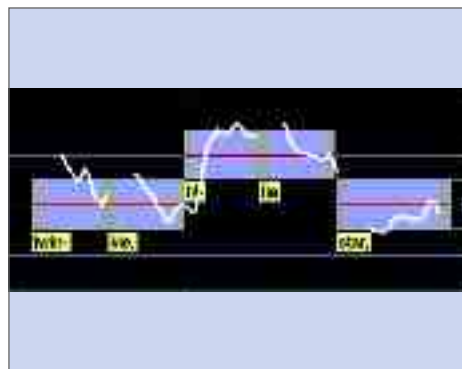
F **Change mode?** Don't play around with it. Doesn't do anything applicable to this tutorial, so you should ignore it for now.



B The blue-bands around the red marks on the timeline are the heart of *Singing Coach*. The red line is the 'concert pitch' note, which human voices warble around prettily. The blue bands mark how close you have to get to the actual note to score points. Get over 90, and you're ready to try it on a higher difficulty level. Score less than 50 on easy, and you've probably got a cold very similar to the one PCF is nursing. Poor mucus-secreting PCFormat. And, finally, the white line appears as you sing, marking how close you're getting. Or not.

Notes and queries

Closer, ever closer, to the art of singing



ON YOUR MARKS Have a closer look at the actual singing window. See the small grey areas at the end of each singing note? These are the transition periods. These are where the computer won't dock you marks as you readjust to the new note. They can be reduced, depending how tuneful you're feeling.



HARD ROCK And here's a challenging song at the highest difficulty level. Note the tiny bars – an 1/8th of a note, and what's required to be properly in tune – to be stuck to. Also note the complete lack of a squiggly line over it, showing that PCFormat hasn't even tried. Yes, that is because we're cowards.

Upgrade

For more information about the Singing Coach product range and to check for updates, patches and the Singing Coach online forum, you should head for the Carry A Tune Technologies website, at www.carryatune.com

Missed a Workshop?

Baffled by Ubuntu? Perplexed by pixel shaders? Desperate to upgrade your pig of a rig, but living in fear that one misplaced lead might fry your spanking new hardware? Worry ye not, *PCFormat* is the mag you need to solve your PC problems...

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Turn to page 152 for details



Luis Villazon
A IS FOR ACERBIC

AskLuis...

ALL YOUR PC QUESTIONS ANSWERED

Pub Quiz

Trivia from the land of computing



- 1 Which MS product was codenamed Lonestar
a) Visual Studio 2005
b) XP Tablet Edition 2005
c) Office 2003
d) Visual Basic 5
- 2 Which was Microsoft's first multitasking OS?
a) MS-DOS 4.0
b) Windows 3.1
c) OS/2
d) Windows 95
- 3 When did Linus Torvalds write the Linux kernel?
a) 1985
b) 1989
c) 1991
d) 1995
- 4 Which was Microsoft's first network operating system
a) Windows for Workgroups 3.11
b) OS/2
c) NT
d) XP
- 5 What are the first two bytes of every DOS or NT executable file?
a) 00
b) FF
c) MS
d) MZ

Answers on page 129

Free technical support

Got a problem with your PC? Write to Luis, or better still drop him an email. Assuming you can get your PC to work, that is...

pcfhelp@futurenet.co.uk
PCF Helpline
30 Monmouth Street
Bath, BA1 2BW

Help is at hand

The emergency exits are located to the front and rear, lifejackets are under your seat, sick bags are in the magazine rack. Thank you for flying LuisAir, have a nice trip...



Similar to cheese, according to Luis. How strange.

GRAPHICS CARDS Unrecoverable recover

Q When playing games, my graphics card, a Radeon X800 GT, freezes. The screen goes black and a pop-up window informs me of a VPU Recover. Please explain what this means and why my card is doing this. My previous card was a Radeon 9600 Pro and it did the same thing. After trying all the usual fixes, installing updated driver, testing, benchmarking etc. the card would not perform.

I have tried ATI's technical boffs and they have not been very forthcoming.

CRAIG
headquarters@pixie.co.za

A I can't think why – VPU Recover isn't an error message, it's a feature unique to ATI cards and one that they should be proud of. Normally,

when your graphics card overheats or tries to do something that isn't supported by your motherboard BIOS, Windows flips you the Blue Screen of Death (if you're lucky) or just sits there smiling vacantly whilst ignoring all input devices (if you're not). With the magic of VPU Recover protecting you, the Catalyst driver will automatically notice, and reset the card. This should return you to Windows without rebooting. Theoretically, it might also allow you to save your file before the current application quits, but I have never seen this happen in a situation where it was useful. This is because graphics card crashes do not

happen running MS Office or Outlook Express. They happen when all the pipelines are jammed full of pixels waiting to render the next frame of Far Cry or something. Nearly all VPU Recovers are caused by overheating, either directly or indirectly, so the card is unlikely to simply start working again the moment it's reset.

Now normally, at this point in an answer, I would further illustrate my point with a motoring metaphor – by saying that a VPU Recover message is the oil pressure light on your dashboard, say. But I'm so tired of motoring metaphors. So let's use a simile from the world of... cheese making. Yes. So, a VPU Recover message is like... the... red wax on the outside of an Edam cheese – it's ugly, you can't eat it and you have to get rid of it before you can proceed but it protects the cheese within and

if it wasn't there, the cheese would be even more rubbery and tasteless than it already is.

Moving swiftly on to the solutions portion of the answer then, my advice to you is this. You have had two ATI cards and both of them have generated VPU recover events. Either replace your motherboard or switch to NVIDIA. The latter will probably be cheaper since replacing your motherboard is like ripping out all the worktops in your dairy parlour – you usually find you have to replace the rennet agitator and the curd press as well. On the other hand, we can be fairly sure that the fault doesn't lie with your two graphics cards themselves but rather the interaction between them and the motherboard. So the NVIDIA Stilton may be just as smelly as the ATI one and you may still find you need to swap the cheeseboard. Mother! I mean the *motherboard*.

BOOT PROBLEMS

The POSTman always beeps twice

Q I have an MSI K7N2 Delta2 motherboard with a 3200+ XP, that refuses to 'POST'. All the fans and drives fire up but that's about it; no beeps or 'visuals'.

I was attempting an overclock and my first step was to reduce the RAM/FSB ratio because my RAM is somewhat lacking, but my CPU and cooling is in good shape. This resulted in a 'Non POST' event. I used the jumper to clear the BIOS which set the BIOS back to defaults and bumbled through the various settings until I came across a 'VIRUS PROTECTION' setting and

thought "obviously enable that one...." and carried on my way.

The thing is I didn't leave it at that. I went about trying to overclock straight away, before I had given the poor thing a chance to load up a clean POST with 'standard' settings (oops) and I got a 'Non POST' event again. I've done this before, come to the situation where resetting the BIOS (including removing the battery and power cord and pressing the power button) just leaves me with a dead machine, the solution was to insert an XP1900 CPU which seemed to 'force' the BIOS to go to defaults. It hasn't worked this time and the board is a year and a month old now (typical!) so I can't take it back.

My feeling is that the 'VIRUS PROTECTION' setting is not allowing the BIOS to change its settings back to default. Is the kit borked good stylee?

LEE

(email address withheld)

A All the virus protection feature does is prevent access to the partition table and master boot record of the hard disk via the int13h BIOS function. This blocks most boot sector viruses from installing themselves but it is a largely worthless feature for two reasons. **1** Boot sector viruses are sooo 1995 – nearly all viruses are actually email worms these days. **2** You will get false positive alerts every time you try to run a program that legitimately modifies the partition table (eg *Partition Magic*).

What the virus protection feature won't do is prevent you from changing the settings held in CMOS RAM. And even if somehow you

could lock the CMOS in this way, removing the battery would still erase it and restore the factory defaults from the BIOS flash RAM.

When the fans spin but motherboard doesn't even complete the POST, there are three common causes:

- 1 Loose video card (doesn't hurt to remove and reseat this, but don't get your hopes up).
- 2 Dead CPU (actually, this is quite rare and you have tried swapping the CPU anyway).
- 3 Dead RAM.

I'm going for 3. My theory, based on very little besides my legendary contempt for my fellow man, is that you inadvertently *increased* the clock speed of your RAM. This is actually very easy to do because of the varied and confusing ways in which this particular BIOS setting is labelled. The fastest your RAM can run is the native clock speed of the front-side bus. This gives a FSB:RAM ratio of 1:1. The other usual values are 5:4 and 3:2. Stepping your RAM down to a slower speed should do nothing more harmful make your whole system run a little slower (and possibly even more reliably). It can't make a PC crash that wasn't crashing before because it relieves strain on the RAM rather than adding it. Increasing the clock speed on the other hand certainly could cause system instability. I wouldn't expect it to necessarily destroy your RAM but I would certainly swap those modules out before I entirely ruled out the possibility.

OS TWEAKS

Weird message

Q I've just bought a second-hand IBM Thinkpad T21 for my daughter to do homework, email, browsing, MSNing et al. I have clean installed Windows XP over the old OS '98, stuck a Motorola WiFi card in, installed MS Office XP Pro, SpyBot and AVG Virus Checker. Everything works fine except... every time Windows loads, the desktop is obscured with a Notepad window containing the following

`"[.shellclassInfo] LocalizedResourceName+%systemRoot%\system32\shell32.dll"`

All the drivers are perfectly up to date and device manager says that all hardware is working properly without conflict. At the moment I have told my daughter to just shut the window down and continue as normal but it is bugging the hell out of me. What is this

FAQ

Understanding quantum chips



Both available and unavailable at the same time. Huh?

What is quantum computing?

It's using quantum state of an atom or molecule to encode a bit state. Because of quantum uncertainty, quantum bits (known as qubits) can be 1 and 0 simultaneously. This would let a quantum CPU do many calculations at once.

Haven't they been demonstrated before?

Yes, but these "computers" used molecules of organic solvent manipulated by radio waves and cooled using liquid helium – hardly practical.

How is this different?

A team at the University of Michigan has developed an actual chip, the size of a stamp, that contains a single qubit.

What is it like?

It has an ion trap, holding a positive-charge cadmium ion. The qubit's state is decided by the spin of the ion's electron. To change the state, you fire a laser at the atom.

Why is it important?

It is the next step in the commercialisation of quantum technology. We now have a chip that is made with existing photolithographic technology.

How many qubits is a useful amount?

Every qubit doubles the power. The team hope their design will allow for 10-qubit CPUs, enough to crack 56-bit triple DES encryption in under a year.

Read more at:

www.lsa.umich.edu/physics

Bedside table

This month, Luis is reading...

Brilliant Troubleshooting & Repairing your PC

Authors John Taylor Publisher Pearson Price £13 ISBN 0-13-173398-2

I find with troubleshooting books that they promise much and deliver little. This one is different though. It is much, *much* worse. We are shown device manager but not what to do with it; the BIOS password but not the advanced features; how to reinstall Windows but not when to do a clean install and when to reinstall. "Detailed index" the publisher claims. Yeah, right. These are the entries for N: Network and Internet Connections, Network Connection, Norton Ghost, Numeric Keypad. Come on!



message, what is generating it and how do I get it to go away?

TONY MARSHALL
family@marshallcornwall.
wanadoo.co.uk

A Hello and welcome to Money For Old Rope. This month we'll show you how to troubleshoot apparently quite complex PC problems, armed only with *Internet Explorer* and a broadband connection. First we open *Internet Explorer* and type **support.microsoft.com** into the address bar. Next we type .shellclassinfo into the search box on that page. Result one of one on this search is entitled:

Notepad Starts With
"[.ShellClassInfo] LocalizedResourceName=%SystemRoot%\System32\Shell32.dll,-21787"

When You Start Your Computer

Well now, that seems kinda promising, dontcha think? Let's read on and see what happens...

CAUSE

This behaviour may occur if there is a file called Desktop.ini in C:\Documents and Settings\All Users\Start Menu or ...Start Menu\Programs or ...Start Menu\Programs\Startup.

RESOLUTION

To resolve this behaviour, use one of the following methods:

- 1 Delete the Desktop.ini File
- 2 Use msconfig.exe to disable the Startup Item

All that remains now is to recycle this information in a leading PC leisure magazine and pass off the information as your own. Next month we'll show you How to Not Kill the Goose that Lays the Golden

Eggs by Giving Away all your Trade Secrets [I knew it - Ed].

VIDEO CODECS

DVD compression

Q I'm trying to burn DivX files onto a DVD to play in my DVD Player in the living room. The thing is, I don't want to convert my DivX files to DVD because then I can't fit as many on the disc. I've noticed that some of my VCDs play AVI files. Is there any way I can fool my DVD player into thinking my DVD full of AVI files is actually a playable VCD, full of AVI files? It would mean instead of two hours forty minutes of playable video, I would have eight hours of playable AVI files. It just seems a waste to convert to DVD files when the quality isn't that great anyway.

PETER ROWLEY
peter.rowley370@ntlworld.com

A I'm going to go easy on you here because you are clearly a feeble-minded idealist who thinks that the world

files because it happens to be a computer with enough processing power to decode it. But at £1,000 for a cheap MCP, you'd need to burn 300 days* of non-stop video before the saving in the cost of blank media would pay for it. I highly suspect that no matter how voracious a consumer of video you are, you don't have this amount of content to burn, let alone the inclination to do it.

* Unless I've done my sums wrong. But whatever the number is it's a lot, anyway.

LAPTOPS

Replacement batteries

Q The battery on my EI Systems 4413 laptop has died and I need a replacement. These seem to all be a higher voltage (14.8v) than the unit it's fitted with (10.8v). Some technical help tells me I can safely put in the higher voltage battery and some tells me I must stay with the lower one, and some think it's probably OK! It may not be the

Securing your wireless network



1 Neighbourhood watch
By default, a wireless LAN will install with no encryption and publicly visible SSID (the name used to connect to the network). This will let anyone with a good antenna within 100m log in and use your bandwidth instead of theirs. Clever hackers could also theoretically eavesdrop on your network traffic.

2 Don't broadcast
The simplest fix is to turn off the SSID Broadcast feature. This prevents the SSID from being automatically included in the publicly visible section of every frame header. This means that only computers that already know the SSID will be able to connect to it. Make sure you don't stick with the default SSID though.



1 Encrypt and survive
The next step is to turn on Wireless Equivalent Security or WEP. This encrypts every frame with a 64 or 128-bit key generated from a password. To connect to the network, computers will now have to know both the SSID and the WEP password. Since the password is never sent over the air, this is very secure.

2 For the truly paranoid
WPA or Wireless Passphrase Authentication is often touted as "even better than WEP" but the reality is that it doesn't add much to home security. Better is to list the MAC (Media Access Control) addresses for every network device and PC on your network and only allow these to connect to the LAN.

"For every legitimate owner, there are 10 casual pirates who got their copy from KaZaa"

could be a good and wonderful place simply because we ask nicely enough. The reason that DVDs hold two and a bit hours of video and DivX squeezes eight hours into the same space is because they use different compression algorithms. DVD uses MPEG2 and DivX uses MPEG4. The latter is obviously a much more powerful algorithm but it requires more processing power to decompress. Too much for your home DVD player to do in real time, even if it had the firmware to do it. Which it doesn't.

The AVI file format isn't a compression scheme, it's just a wrapper for a video stream that is used to present a consistent interface to the media player handling the file. Converting a file to AVI (or QuickTime, come to that) doesn't necessarily change the compression, it just adds another wrapper so that it will be accepted by certain players. No wrapper in the world will magically give your DVD hardware the ability to suddenly decompress MPEG4 video.

Now, if you were to replace your DVD player with a Media Center PC, this would be able to cope with DivX

world's greatest laptop but I like it and would like it working. I would value your advice, please, Luis.

MARTIN BOOTH
martin_booth@lineone.net

A My advice is that you are an idiot. This is actually nearly always my advice; all that changes really are my reasons for arriving at this conclusion. In your case, you are an idiot for hoping that running 14.8 volts through a device that expects 10.8 is going to do anything other than lasting harm. That's a 37% increase. You'll be lucky if the fuse on the motherboard manages to blow in time.

So, no, a regular laptop battery will not do. What you need instead is one that is compatible with the EI Systems 4413. But how on Earth will you track down such an exotic beast? Oh, gee, I don't know, how about if we just try GOOGLING FOR THE DAMN THING! Search for "EI Systems 4413" and result number three is **www.mdsbattery.com** selling the UN755 battery, compatible with the EI Systems 4411, 4412 and 4413. The price is a highly reasonable \$110 and, yes, they do

ship to the EU. Come on people! Google! This isn't hard.

WAREZ N HAX No-disc patches

Q What do I do if my computer keeps on giving me a message to "insert correct disk into drive" after installing games? Note: I buy original games and so bought myself Far Cry, and got the same result. What I have discovered though, is that as soon as I paste a crack into a programme directory of that specific game, it works! Problem though is: that I cannot find a crack for Far Cry, would you be able to guide me to a site where I would be able to download a crack or please tell me how to troubleshoot my system, as it does this with all original games.

TOTO

jacquesgouws@webmail.co.za

A Look Toto, you're not in Kansas anymore. This kind of "i need warez 2 pla all my legal games, pls help kktxx" stuff might fool the folks back home but it sure doesn't wash with me.

Maybe you do have a legal copy. But for every legitimate owner looking for a way to play without the CD, there are 10 casual pirates who got hold of theirs from KaZaa. If you run a 64-bit processor and have the 64-bit version of Windows, there is an official patch from Ubisoft that will remove the disc-in-drive requirement as a happy by-product. Everyone else will have to besmirch themselves on the horrible warez sites and come away with eight viruses and a Trojan as well as their precious patch.

You see, I simply don't buy the civil liberties argument for no-CD hacks. Is it really so desperately

onerous to put the CD in the drive when you want to play the game? Yes you bought the game but so what? I daresay you bought your car too but you don't email Jeremy Clarkson and ask him for a way to drive your car without the key in the ignition. That £35 you paid doesn't mean you own the game, it means you have the right to use the game. On Ubisoft's terms. Your consumer choice consists of "to buy or not to buy", nothing more.

CASES Missing key

Q I have recently acquired a second-hand Time PC, and I can't see an obvious way to get open the tower to put in an extra drive. Can you help?

ABIGAIL WILLIAMS

abswill@tiscali.co.uk

A Angle grinder?

USB Cable compatibility

Q I want to connect an Epson all-in-one printer/scanner/copier to my PC, which supports USB 1.1. The printer is USB 2.0. Do I need an adaptor or can I just use a USB 2.0 A to B cable?

BRUNO GARSELIS

bruno.garselis@whsmithnet.co.uk

A Yes. USB 2.0 is backward compatible with USB 1.1 and 1.1 is forward compatible with 2.0 so you can mix devices in ports in any combination. Though obviously, you'll be restricted to 12Mbit/s if either port or device are using USB 1.1, which means that it will take longer to print a

document than if you were utilising the printer's full speed potential. The cable should work just fine.

NETWORKING Router worries

Q I am looking into getting NTL Broadband and would need to connect two PCs one upstairs and one downstairs. I have been told the only way to do this is with a router, is this correct? With a router, can both PCs then use the internet at the same time? What is the range of the signal? If a router is the way to go, can you give me some tips as to what things I need to look for when I'm buying one?

SCOTT MAULL

scott.maull@ntlworld.com

A A router isn't the only way for two PCs to share a broadband connection but it is by far the best. You could also use a USB modem plugged directly into one PC, run Windows Internet Connection sharing on that one and network the two PCs together. Using an ethernet crossover cable if you are really cheap. It can be made to work but it will no doubt be a Source of Distress and Frustration. A wireless router on the other hand will Bring You Joy and Satisfaction and is really much simpler to set up. I'll go further than simply offering some buying tips and tell you exactly which one you need to get, namely the Linksys WRT54GS-UK, which costs £53 at www.dabs.com. Realistically, you can expect the wireless signal to go from one end of the house to the other if your house was built after 1970, up to three rooms away for houses built between 1920 and 1970 and into the adjacent room for houses older than that. PCF

VIRUS OF THE MONTH

The worm has turned... again



Why are viruses always blighted with misspellings?

Name Sygyp
Aliases Gypsy, W32.Sygyp.
A@mm
Type Worm
Infects Windows 2003/XP/2000/NT/ME/98/95
Number of outbreaks <100
Virulence Moderate
Lethality Low
First detected 22/1/2006

Symptoms

The virus turns off your firewall, disables the Windows Security Centre and blocks access to the Task Manager and registry editor. It then disables any virus scanning processes, and harvests email addresses from your PC, sending itself to each via Outlook Express.

If you are running NT, it will delete any scheduled tasks and add a new one that shuts down your PC, displaying a message: "From state to state and city to city infecting computers like a wondering Gypsy...!!"

Prevention

The emails all contain the subject line "Google Earth - Explore, Search and Discover" There is an attachment called GoogleEarthSetup.exe. If you click it, you'll install the virus, if you don't you won't. Simple.

Cure

You'll need to use a dedicated AV scanner to remove the executable first so that you can rename the registry editor. Details of which registry keys need to be edited can be found at the link below.

More info

tinyurl.com/cx7cc



Words Luis Villazon Pictures Mark Mitchell



Unified shaders

James Morris asks whether or not the Xbox360's method of rendering graphics will benefit future PC games



Shaders took 3D graphics acceleration into a new era. Up until then, rendering had been primarily about polygons and pixels. The polygons defined the shapes, then textures were stretched over them to create the solid objects, with maybe a filter effect or two across the entire scene to round things off. The GPU processed 3D using a fixed set of operations.

But that wasn't the way they'd been doing things in cinema 3D for some time. Even if you had a render farm full of high-powered rackservers, plotting every detail with polygons was inefficient, when you could use an algorithmic transformation on a simpler structure to create visual detail instead. To perform this in real time, you'd need the ability to program different algorithms into the hardware itself. Transform and Lighting began to make some of this available, but it arrived in earnest with DirectX 8 shaders.

VERTEX SHADERS VERSUS PIXEL SHADERS

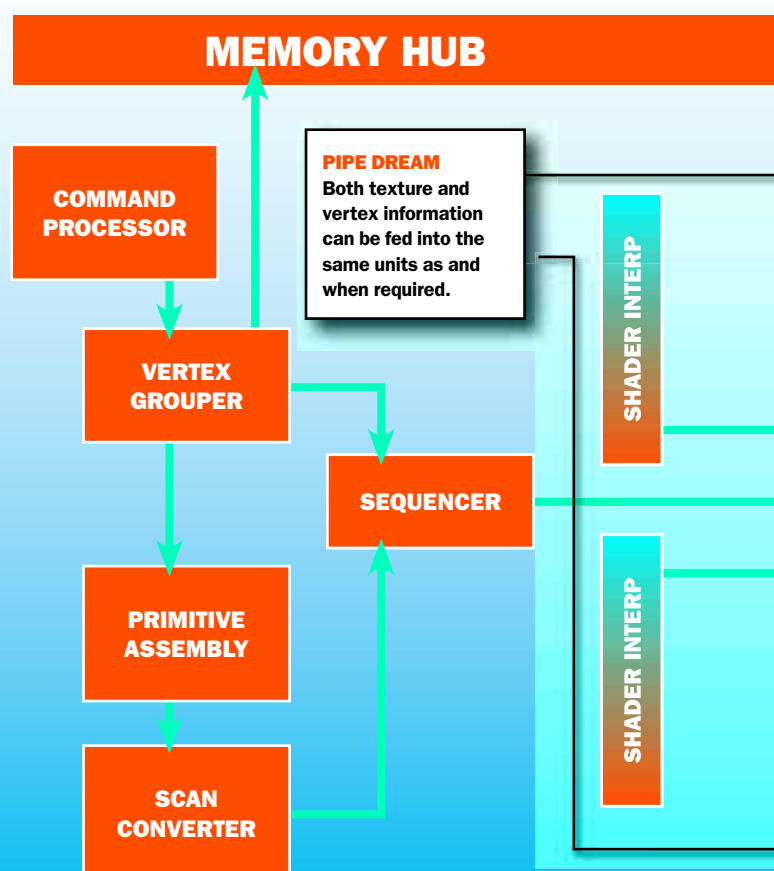
DirectX 8 implemented two types of shaders – vertex and pixel. Both perform algorithmic transformations, but on different stages of the rendering process. Vertex shaders take geometric data and pass it through a matrix. The operations performed can give vertices different positions in space, different colour values, or different texture values. This can create effects such as looking through a lens, which distorts the apparent positions of vertices in the world.

Pixel shaders, in contrast, work at the pixel level, more like the filters in a photo editing program. This can create material effects such as leather, wood grain, and other organic appearances. Bump mapping is one of the most important pixel shading functions. This interacts with world lighting to create surface highlights and shadows, which in turn give the impression of greater detail than there is at the geometric level. Traditionally, the most processing-intensive task in rasterising a 3D scene has been the application of multiple textures to the objects, rather than vertex-related effects. So the last few generations of graphics cards have put the lion's share of their power into their pixel shading.

Looking at the schematic structure of a modern PC graphics chip, it's clear that rendering should pass through vertex shading first before pixel shading occurs – for obvious reasons. You can't texture a model before its geometry is ready. Well, you could, but it would be a waste of time if the

How Xbox's GPU works

The Xenos chip hints at shaders to come

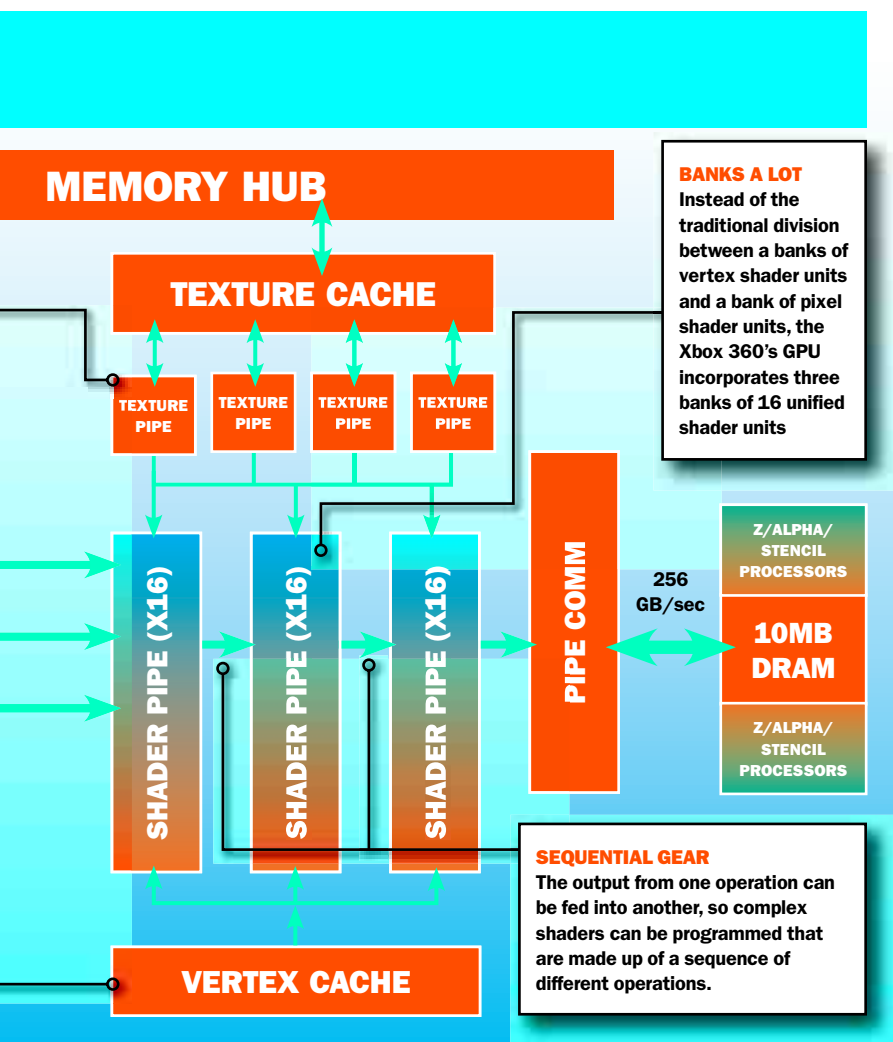




Unified shaders are particularly adept at rendering cloth, which is great if your game character's turban happens to unravel just at the wrong moment.



If you go down in the woods today... you're sure of a more detailed surprise when your shaders have been unified.



state of the art

textures ended up not being required. So the vertex shader units could be a bottleneck in some situations where vertex shading is intensive, making it imperative to have enough of them. But most of the time they could be under utilised, which is a waste of the GPU's overall processing power.

REUNIFICATION

The solution to this problem is unified shaders. Although vertex and pixel shaders clearly contribute different processing to the visual end result, the algorithmic operations they perform are basically the same. There's no reason why both vertex and pixel transformations can't be performed by one general-purpose shader unit.

This is the innovative approach taken by Microsoft's Xbox 360, the Xenos graphics engine of which was developed by ATI. Instead of separate banks of shaders, the Xbox 360 has 48 parallel unified shaders, which can be dynamically allocated to vertex or pixel shading depending on the requirements of the current task. The shaders are arranged into three banks of 16, and each unit contains four ALUs, so can execute four floating point operations per clock cycle.

In the past, the worry has been that efficiency could be lost with unified shaders. So, to keep all the shader units as fully utilised as possible, the Xbox uses hardware threading. The GPU itself can maintain state information on up to 64 threads, storing them in a buffer. The end result is unprecedented rendering quality. In particular, the more flexible shading abilities than previous architectures has meant better-looking hair, fur, feathers and cloth. The Xenos uses geometry shader algorithms to create or destroy geometry, not previously available with dedicated shaders.

However, the new approach also requires a new way of programming. The instruction set for vertex and pixel shaders has been unified into a more general set that has roots in DirectX, but goes beyond even Shader Model 3. In traditional models, the pixel shader output is fed directly to the render output (ROP) units, but with the Xbox 360, shader output can actually be fed back into the system for more processing.

A UNIFIED FUTURE?

So far, the approach taken by the Xbox has not been replicated in desktop PC graphics. ATI's current Radeon X1800 and recently launched X1900 do have the ability to feed pixel output back into the vertex pipeline using a Render Vertex Buffer, for functions like displacement mapping. This satisfies the ability in Shader Model 3 for vertex texture effects, but it's nothing like what unified shaders can achieve.

Although ATI hasn't officially confirmed this, it's fairly common knowledge that the company's forthcoming R600 GPU will use unified shader technology based on Xenos. NVIDIA is rumoured to be implementing unified shaders in its forthcoming G80 as well. However, NVIDIA executives have also gone on record arguing against the unified approach, so it's possible that NVIDIA will maintain the traditional pixel/vertex dichotomy alongside some minor unified capabilities. By 2007, two companies could be using architectures.

With the arrival of Windows Vista and DirectX 10 (a.k.a. Windows Graphic Foundation 2), the benefits of unified shader hardware will increase greatly. DirectX 10 will present a unified API and although it will be possible to serve it using separate units, since shaders will be unified at the software level it will make sense to unify them in hardware as well. So, despite statements from NVIDIA to the contrary, it's likely that the future of PC 3D graphics shaders will be unified. **PCF**

NEXT MONTH
XDR MEMORY
REMEMBER RAMBUS, INTEL'S FAST BUT EXPENSIVE MEMORY FOR PENTIUM 4? IT'S BACK, AND BETTER.

Board games

Want to turn your gaming rig into a future-proof system that your peers will drool at? Alan Dexter tests 10 high-end motherboards for ultimate desirability



MSI RS480M2-IL
£63
p135



Gigabyte GA-8N-SLI Pro
£76
p135



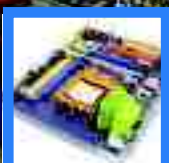
Gigabyte K8N Pro SLI
£82
p136



Foxconn WinFast NF4SK8AA
£92
p136



Foxconn NF4SLI7AA
£124
p137



ECS KN2 SLI
£135
p137



Abit AW8-MAX
£140
p138



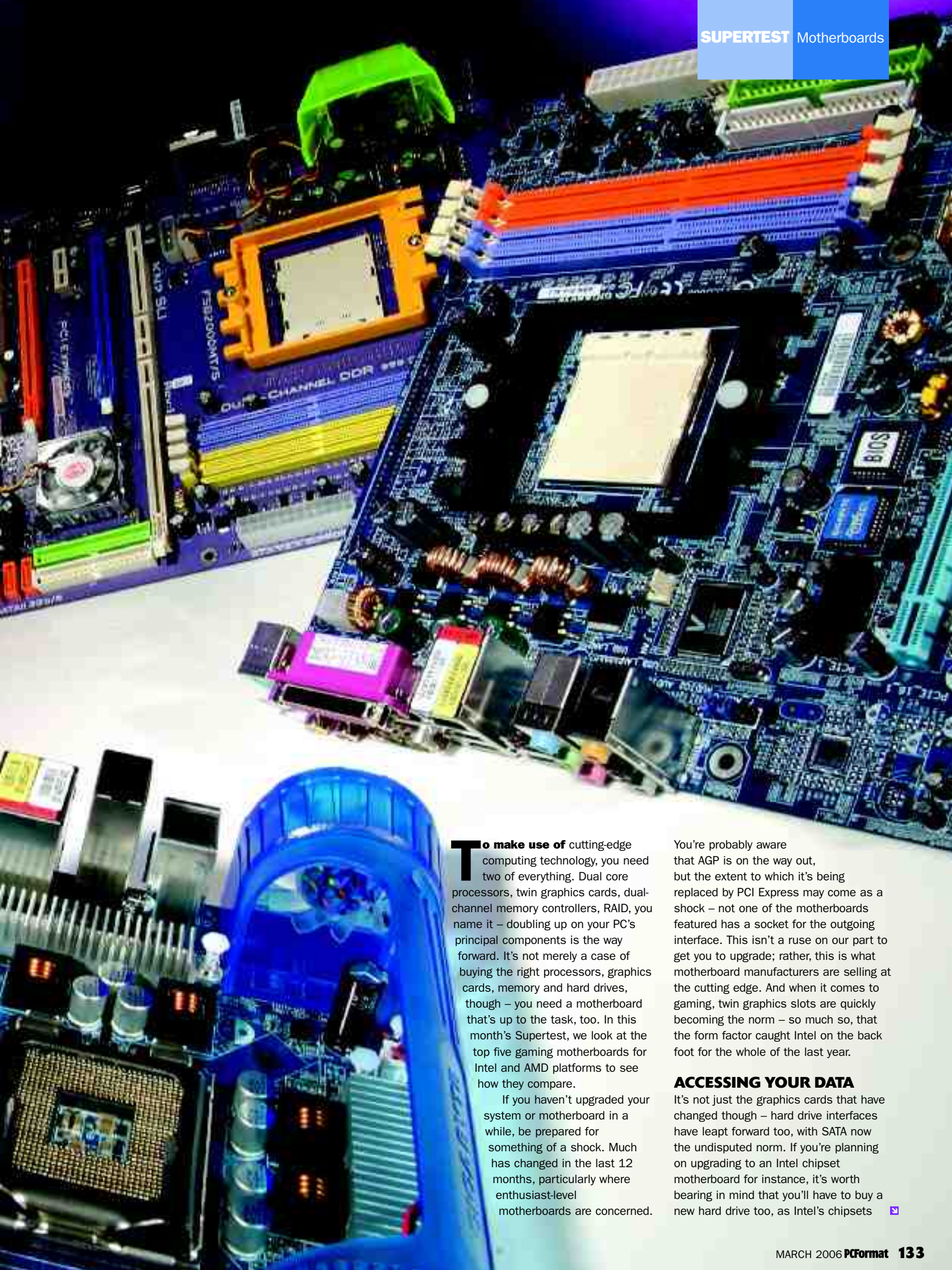
Asus A8N32-SLI Deluxe
£142
p138



Asus P5N32-SLI Deluxe
£142
p139



Gigabyte GI-Turbo
£170
p139



To make use of cutting-edge computing technology, you need two of everything. Dual core processors, twin graphics cards, dual-channel memory controllers, RAID, you name it – doubling up on your PC's principal components is the way forward. It's not merely a case of buying the right processors, graphics cards, memory and hard drives, though – you need a motherboard that's up to the task, too. In this month's Supertest, we look at the top five gaming motherboards for Intel and AMD platforms to see how they compare.

If you haven't upgraded your system or motherboard in a while, be prepared for something of a shock. Much has changed in the last 12 months, particularly where enthusiast-level motherboards are concerned.

You're probably aware that AGP is on the way out, but the extent to which it's being replaced by PCI Express may come as a shock – not one of the motherboards featured has a socket for the outgoing interface. This isn't a ruse on our part to get you to upgrade; rather, this is what motherboard manufacturers are selling at the cutting edge. And when it comes to gaming, twin graphics slots are quickly becoming the norm – so much so, that the form factor caught Intel on the back foot for the whole of the last year.

ACCESSING YOUR DATA

It's not just the graphics cards that have changed though – hard drive interfaces have leapt forward too, with SATA now the undisputed norm. If you're planning on upgrading to an Intel chipset motherboard for instance, it's worth bearing in mind that you'll have to buy a new hard drive too, as Intel's chipsets

only boast a single IDE port (for CD-ROM support). The performance difference offered by SATA over IDE is slight in most daily operations, but it's definitely the way forward, and while we don't condone Intel's tactics, you'll want to upgrade your hard drive soon anyway.

Memory is also on the move. Intel's DDR2-667 is starting to show comparable performance to the fastest DDR400 equivalents, and it finally looks like Intel could be in a position to push the standard forward. AMD's imminent DDR2-supporting AM2 processors will probably help matters even more. For the time being though, if you want to upgrade to an Athlon 64 platform, DDR400 is quick, good value, and is readily available, too.

In fact, the one standard that hasn't really seen any threat from newer competition thus far has to be the PCI slot. PCI Express may offer bandwidth

advantages over its predecessor, but very few non graphics cards have been released that make use of the standard. Aside from Terratec's dual digital TV tuner, we're hard-pushed to think of any expansion cards that require a PCI Express slot. The tide could change soon, but what would you add to mobos that already offer so many features?

DOMINATING

The most common expansion card still in systems is the soundcard. Some may claim that integrated sound controllers can't touch discrete cards, but onboard

larger market. Intel started 2005 with its 915 and 925 chipsets, the latter of which was aimed at the enthusiast market. The release of Intel's dual core processors brought with it a pair of new chipsets, as the previous iterations didn't support the new processors. The 945 and 955 chipsets managed to level the playing field with NVIDIA's Intel Edition NFORCE solution, but still lacked in one respect – SLI support.

Intel's new 975 chipset is designed to break this monopoly (supporting CrossFire at the same time, no less), but NVIDIA is being canny here, and only

“AGP is being phased out, and the extent to which it's being replaced by PCI-E might be a bit of a shock”

controllers are improving – indeed, one of the motherboards here features a Creative Sound Blaster Live 24-bit chip.

NVIDIA's success on the AMD platform has managed to eclipse all comers, relegating VIA, SiS, ULI and ATI to also-ran positions. It's been a shock for the industry, particularly for AMD's former ally VIA, which has struggled since its debacle with Intel.

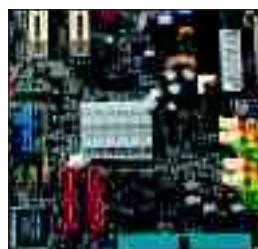
More surprising still is NVIDIA's move into the Intel fraternity. Admittedly this has had more to do with Intel's own actions than a focused attack on a much

supports SLI configurations on its own chipsets. This is expected to change later this year, but for the time being, if you want to throw a pair of NVIDIA graphics cards into the belly of your system, you're still going to need to use an NFORCE4 motherboard.

Whichever platform you have decided to back, you can read about the latest, greatest motherboards opposite to see how far these pivotal components have advanced in the last year. And we wish you luck with your killer gaming rig once it's built.

HOW WE TESTED

Picking the right motherboard isn't just about features, price, and performance; it's a combination of all three



Features

For the Socket 939 motherboards we have selected the most affordable revision of its elegant dual-core processor, the Athlon 64 3800+. For the Socket 775 motherboard we've elected to go for the Pentium 4 3.8GHz, Intel's fastest single-core processor to date. The performance is surprisingly similar, despite the Pentium 4 costing twice as much.



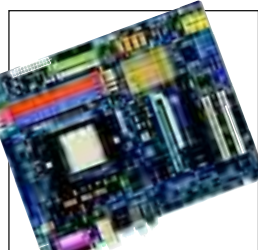
Performance

Doom 3 and Far Cry form the main gaming tests in this Supertest, backed up by both 3DMark 03 and 05 – in single and SLI modes where applicable. We've also used the synthetic PCMark and Sandra tests to check the vital components. Finally, Windows Media Encoder ascertains how much cinematic grunt each motherboard boasts.



Overclocking

We'll also assess the overclocking potential of these motherboards. All of the boards offer reasonable overclocking through the BIOS, and most of them support dynamic overclocking controlled by system load temperatures too. This makes cooling technology important, particularly as most manufacturers are moving away from active cooling.



Value for money

If you're looking to upgrade your motherboard, then it's probably part of some larger upgrade scheme, so value for money is pivotal – save money here and you can spend more elsewhere. If the performance gulf between these motherboards isn't too great, your money could be more wisely spent on high-end game-enriching components.

Upgrade with confidence
Fancy improving your PC on all fronts? Be careful...

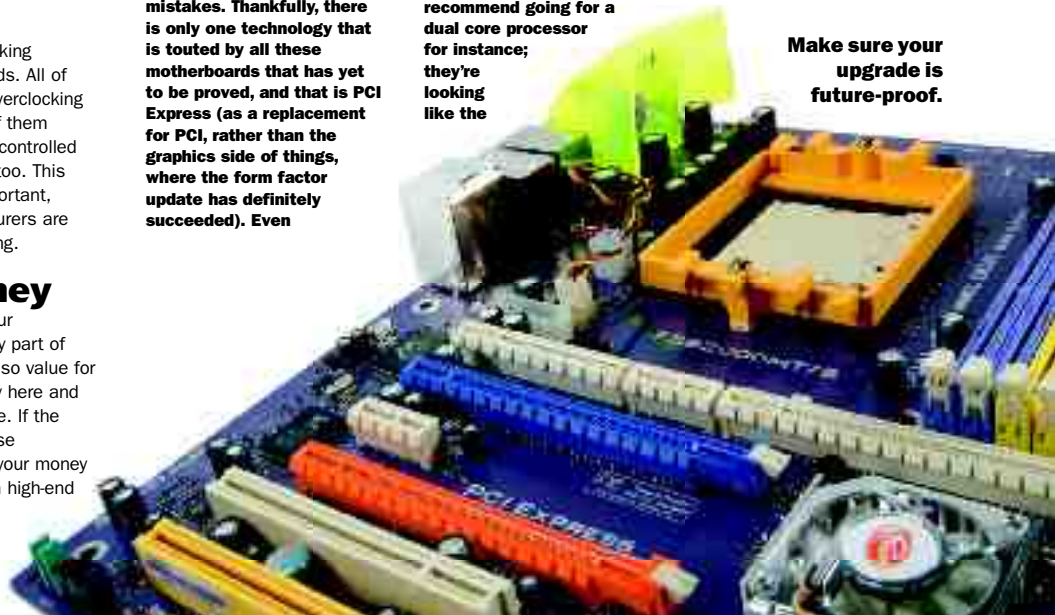
A mobo upgrade enables you to bring your system up to date while allowing for tweaks in the future. The problem is that it's impossible to see into the future and spot which technologies are going to have longevity, and which are going to join the likes of RDRAM on the great scrapheap of embarrassing mistakes. Thankfully, there is only one technology that is touted by all these motherboards that has yet to be proved, and that is PCI Express (as a replacement for PCI, rather than the graphics side of things, where the form factor update has definitely succeeded). Even

then, it doesn't matter whether it does succeed or not, as PCI slots are present on all of the motherboards here as well – so porting across your soundcard won't be a problem.

It's worth bearing potential future upgrades in mind if you're looking to buy extra kit with your new motherboard though. We'd recommend going for a dual core processor for instance; they're looking like the

future of personal computing. If you buy a new hard drive, make sure it is a SATA model, and of course any graphics card you buy now really needs to be a PCI Express model if it is to survive. Memory is a little trickier, but pick the fastest available for your chosen platform, and you should be fine for a while at least.

Make sure your upgrade is future-proof.





MSI RS480M2-IL

Price £63 Web msicomputer.co.uk

NVIDIA isn't the only company manufacturing Athlon 64 chipsets, but it does define the standard, marginalising the likes of VIA and SiS in the process. Surprisingly, the only socket 939 motherboard here not to call on the might of an NFORCE chipset instead draws on the technical prowess of its arch-rival, ATI. Maybe not that surprising after all...

This micro-ATX mobo boasts integrated graphics, although it also has a standard PCI Express X16 slot for serious gaming. The fact that it is so small works in its favour if you're looking to build a more discreet rig, although the lack of space does mean that the feature list is compromised compared to its ATX peers. All the major boxes have been ticked though, with support for the latest memory and CPUs, backed up by SATA and FireWire ports. There's no Gigabit ethernet though.

Despite the low price, the performance differential isn't as marked. It hovers around the bottom of the

DETAILS

Processor support
AMD Athlon 64, X2, FX

Chipset
ATI RS480 + SB400

Memory
Dual channel DDR400

Graphics interface
PCI Express x 16

Expansion slots 3 x PCI

BENCHMARK

PCMark05 4,391

3DMark05 2,202

Doom 3 108.4fps

Far Cry 1.33 60.59fps

Windows Media
Encode 2m49s

tables, claiming the wooden spoon on the more important tests, but even here it's not ridiculously outpaced. Despite NVIDIA's dominance, it's more because of marketing muscle than outright technical elegance.

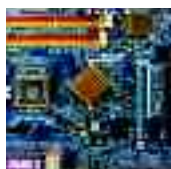
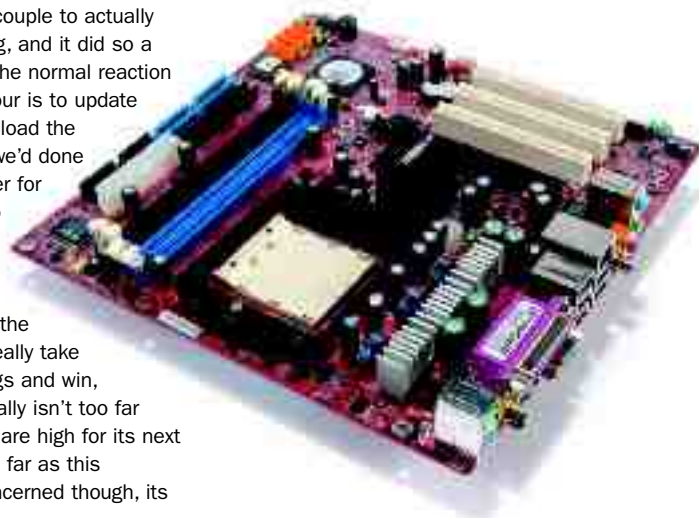
Unfortunately, not everything's so rosy for MSI. This ATI-based motherboard was one of only a couple to actually crash during testing, and it did so a number of times. The normal reaction to such misbehaviour is to update the BIOS and download the latest drivers, but we'd done this already, in order for the motherboard to spot the Athlon 64 3800+.

The MS-7093 doesn't quite offer the punch needed to really take on NVIDIA's offerings and win, but ATI's RS480 really isn't too far behind, and hopes are high for its next serious chipset. As far as this motherboard is concerned though, its

biggest selling point is the price, and the much better Gigabyte offering gets the nod for only a few more pounds.

72%

PCF says... "Small footprint and price, but uninspiring performance and features."



Gigabyte GA-K8-SLI Pro

Price £76 Web www.gbt-tech.co.uk

Gigabyte is one of the leading motherboard manufacturers, so its decision to aggressively price its older offerings is most welcome. And, as can be seen in this K8-SLI Pro, a low price point doesn't mean you get short-changed in terms of performance or features. Indeed, this motherboard shows that there are some wonderful

bargains to be had by stepping back from the bleeding edge of development.

As the name suggests, the K8-SLI Pro uses NVIDIA's NFORCE4 SLI chipset to deliver much needed multi-graphics card support for Intel's chips. One thing worth noting about this chipset is that it doesn't support Intel's most affordable dual core processor, the Pentium D 820 (the rest of the range is covered though).

There was some confusion during the development of the chipset that means

this processor only runs in single core mode – an obvious shame for those on a tight budget.

Gigabyte isn't shy about using colour on its motherboards, and while this makes for a garish inclusion for windowed rigs, it does make finding your way around the inside of the

DETAILS

Processor support
Intel Pentium 4, Pentium D

Chipset NVIDIA NFORCE4 SLI Intel Edition

Memory Dual channel
DDR2-667/533

Graphics interface
2 x PCI Express x 16

Expansion slots
3 x PCI, 2 x PCIe X1

BENCHMARK

PCMark05 4,545

3DMark05 3,872

Doom 3 102.0fps

Far Cry 1.33 64.09fps

Windows Media
Encode 3m47s

machine easier. The design is a little cluttered though – the SLI daughter-card is positioned tight up against the second PCI Express slot, making access very difficult. The graphics card retention clips are also fiddly, especially if you're using a graphics card that takes up two slots on the board.

The performance in single and SLI modes is good, but nothing Earth-shattering. Similar to its AMD sibling, this equates to a strong value-proposition, especially as it rolls in at almost half the price of most Intel motherboards. The inclusion of support for the faster Firewire standard is surprising, and 3.0GB/s SATA RAID 5 is a strong addition too. Overclocking options aren't so impressive, so you should look elsewhere if you're hoping to push your system on this front.

87%

PCF says... "Good value offering for Intel fans, but only with the right processor."





Gigabyte K8N Pro SLI

Price £82 Web www.gbt-tech.co.uk

We'll make no bones about the fact that this mobo isn't new – it's been available since the late spring of 2005. Even so, it's just as relevant today as it was then, if not more so because of the low price. And while cost may not be your main focus for a gaming motherboard, the money you save here can be put to better use on, say, a fruitier graphics card.

Built on the sturdy foundations laid by NVIDIA's NFORCE 4 SLI chipset, Gigabyte has constructed a solution that offers just enough extras without incurring outrageous additional cost. There are some nice surprises here too, including 800Mb/s FireWire, and the company's dual-BIOS configuration.

The performance on offer is solid if not quite top-of-the-league, although it did manage the number one slot with the *Far Cry* test, and a second-place finish for the *Doom 3* engine. The results for the Athlon 64 motherboards are so close, this is largely academic anyway, making other areas such as the pricing

DETAILS

Processor support
AMD Athlon 64, X2, FX

Chipset
NVIDIA NFORCE4 SLI

Memory
Dual channel DDR400

Graphics Interface
2 x PCI Express x 16

Expansion slots
2 x PCI, 1 x PCIe x 1

BENCHMARK

PCMark05 4,453

3DMark05 3,761

Doom 3 110.8fps

Far Cry 1.33 63.09fps

Windows Media

Encode 2m51s

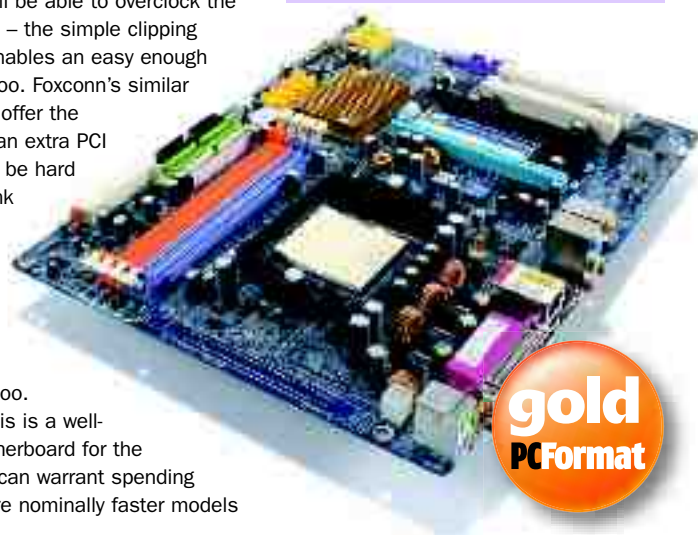
and features far more important, and the low price of this motherboard throws that healthy feature list into sharp relief.

This single-chip solution is passively cooled by a large slab of a heatsink, and while it lacks the heat-pipes that are being pushed by some manufacturers, you should still be able to overclock the system a little – the simple clipping mechanism enables an easy enough replacement too. Foxconn's similar solution does offer the advantage of an extra PCI slot, but you'd be hard pushed to think what to put in it. It's easier to see the main components on this motherboard too.

Overall, this is a well-specified motherboard for the money. If you can warrant spending more, there are nominally faster models

available, but for the money, this makes too much sense. A good motherboard, considering its age.

92% PCF says... "A venerable mobo that you'd be wise to seek out. Great value at this price."



Foxconn WinFast NF4SK8AA

Price £92 Web www.foxconnchannel.com

The NFORCE4 SLI chipset finds its way onto a motherboard lurking just under the £100 barrier. There is an important distinction between this chipset and newer versions though, and that is that this original iteration of the NFORCE 4 SLI chipset operates at x8 frequencies when pushing data to two

graphics cards as opposed to the newer versions' x16. This isn't quite as bad as it sounds though, as you'll discover...

A glance at the benchmarks shows that the newer chipset doesn't necessarily result in faster performance. Indeed this board tops the table in the 3DMark05 test when twin graphics cards are used. While it doesn't manage a similar feat in the

previous generation of the benchmark, it's a seriously close call. Despite the fact that the manufacturer has produced solutions that bypass the hassle of the small SODIMM sized SLI bridge-cards, Foxconn has stuck with this solution for this motherboard. This does make upgrading to SLI trickier than it

DETAILS

Processor support
AMD Athlon 64, X2, FX

Chipset
NVIDIA NFORCE4 SLI

Memory
Dual channel DDR400

Graphics interface
2 x PCI Express x 16

Expansion slots
3 x PCI, 2 x PCIe X1

BENCHMARK

PCMark05 4,448

3DMark05 3,762

Doom 3 109.6fps

Far Cry 1.33 62.86fps

Windows Media

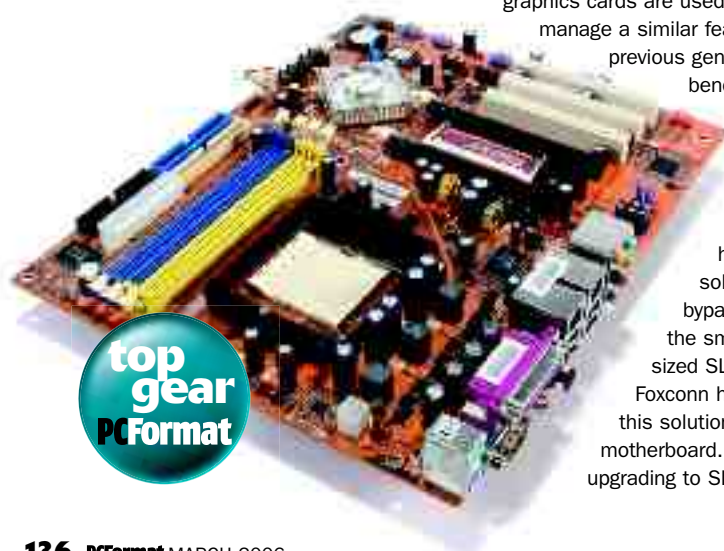
Encode 2m51s

really needs to be, especially as this is so darn fiddly because of its positioning. It'll probably only ever affect you once though, so it's not the end of the world.

This is a well-designed mobo, with reasonable room between the memory slots and the primary graphics port. There's not much space between the graphics slots though, so you could have airflow problems with larger cards.

The rest of the specification is capable enough, with decent 7.1 onboard sound, dual Gigabit Ethernet, too many USB ports to bother counting and Firewire as standard. There are reasonable overclocking options too, although to be honest, the bundle is a little on the light side, and the Gigabyte board on test does pretty much the same for a tenner less.

87% PCF says... "Strong features – this would do better if the competition wasn't so vicious."





Foxconn NF4SLI7AA

Price £124 Web www.foxconnchannel.com

Graphics giant Intel released a litany of motherboard chipsets through 2005, supporting different versions of its processors, with little thought for anyone trying to keep atop the pile. NVIDIA's NFORCE4 SLI solution has kept pace though, supporting dual core chips including the 1,066MHz Extreme editions, making this chipset a wise investment for anyone. It's no surprise, then, that Foxconn is still happily pushing its enthusiast take on this particular chipset.

Not content with the RAID solution integrated into NVIDIA's chipset, Foxconn has an additional two-port SATA II RAID controller from Silicon Image, enabling you to connect up to six drives to the board. IEEE1394b, dual Gigabit Ethernet and 7.1 channel audio are also added into the mix to make for an impressive feature list. Everything is clearly labelled on the well laid-out motherboard too. Although once again we see the SLI selection card used, which is just as fiddly as Gigabyte's solution. In fact, the

DETAILS

Processor support
Pentium 4, Pentium D
Chipset NVIDIA NFORCE4
SLI Intel Edition
Memory
Dual channel DDR2-667
Graphics interface
2 x PCI Express x 16
Expansion slots
2 x PCI, 2 x PCIe x 1

BENCHMARK

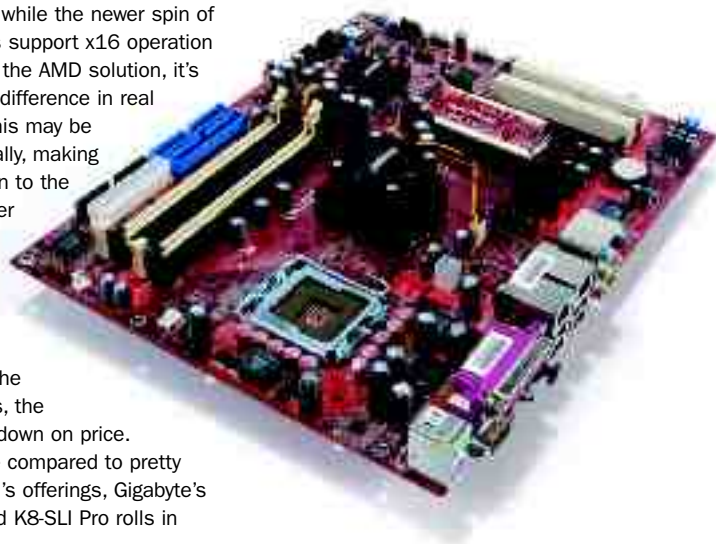
PCMark05 4,542
3DMark05 3,880
Doom 3 102.3fps
Far Cry 1.33 64.11fps
Windows Media
Encode 3m46s

parallels to Gigabyte's K8-SLI Pro don't stop there – when it comes to performance there's nothing to really separate these two.

The active cooling on the chipset north bridge affords limited room for overclocking, and this is supported well in the BIOS. And while the newer spin of this chipset does support x16 operation in SLI mode, like the AMD solution, it's hard to spot any difference in real use. Of course this may be exploited eventually, making this a poor cousin to the only slightly dearer Asus P5N32-SLI Deluxe. Ultimately though, despite the feature list and support for the latest processors, the NF4SLI7AA falls down on price. While great value compared to pretty much any of Intel's offerings, Gigabyte's similarly specified K8-SLI Pro rolls in

£50 cheaper – making this nigh-on impossible to recommend.

73% **PCF says...** "Terrific if it was cheaper, but at this price it doesn't offer enough extras."



ECS KN2 SLI

Price £135 Web www.ecs.com.tw

ECS has a reputation for producing incomprehensible tweaks to make its motherboards stand out from the crowd. The KN2 SLI doesn't deviate from this tactic, boasting a full-length daughter card spanning the width of the mobo where you would normally find the primary PCI-E slot.

This houses the chipset's SLI x16-supporting north bridge, making for a notably different solution to any of the other socket 939 motherboards here.

ECS has also jumped on the rearranging-the-ATX-backplate bandwagon, stripping out the legacy ports in favour of a fluorescent green exhaust fan designed to keep the power circuitry cool. This makes the

machine louder than normal, but not ridiculously so. We were concerned that the north bridge card would hinder airflow, but it is a low-profile card, so this shouldn't be much of a hindrance.

Take one look at the price, and you'll realise that this piece of kit isn't aimed at the penny-pinchers among us, it's aimed at the money-to-

DETAILS

Processor support
AMD Athlon 64, X2, FX
Chipset
NVIDIA NFORCE4 SLI X16
Memory
Dual channel DDR400
Graphics interface
2x PCI Express x16
Expansion slots
2 x PCI, 1 x PCIe X1

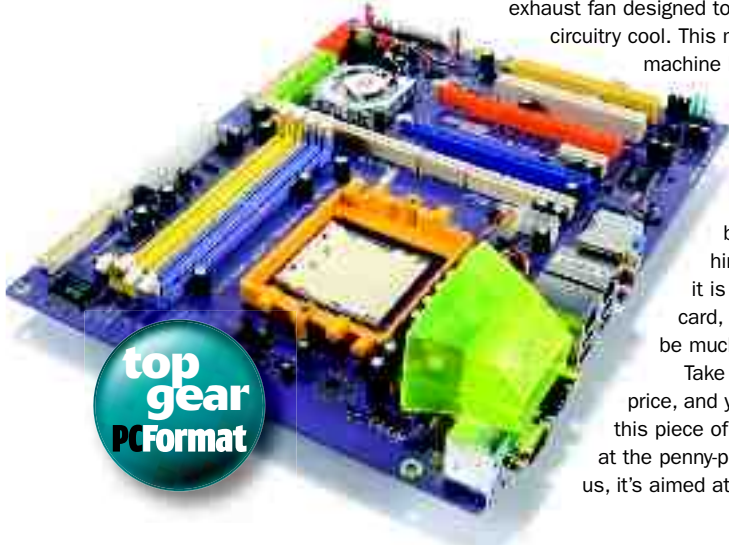
BENCHMARK

PCMark05 4,460
3DMark05 3,762
Doom 3 112.3fps
Far Cry 1.33 62.82fps
Windows Media
Encode 2m46s

burn enthusiast. Coming in at only slightly less than the Asus A8N32-SLI Deluxe, this machine relies on more than gimmicks in order to sate the hungry gamer. It's the performance that really counts, and thankfully this is where the KN2 SLI makes its biggest impact. Doom 3, 3DMark03 and the Windows Media Encoding benchmarks all elevated this motherboard to the number one spot for performance. And where it didn't redefine the standard, it came incredibly close.

There is a caveat to all this though, and in fact it's a hefty one – look how close the benchmark results are. While the premium on this motherboard is significant, those three extra frames a second may mean the difference between (virtual) life and death, but is it worth coughing up an extra £50 for?

86% **PCF says...** "Truly excellent performance and oddness abound, but it's expensive."





Abit AW8-MAX

Price £140 **Web** www.abit.com.tw

The 955X and ICH7R Intel chipset was supposed to be the perfect solution for 'enthusiasts' when it was released, but in essence it merely brought a degree of parity to the ongoing threat posed by NVIDIA's NFORCE4. Support for the fastest Intel processors and SATA II RAID will certainly win it a few fans, though, and Abit has bolstered this with a second SATA II controller, dual Gigabit ethernet, Firewire and µGuru (Abit's intelligent overclocking and system monitoring chip).

In theory, 8GB of DDR2 667 can be installed in this motherboard, although there are only four slots, and 2GB DIMMs are rarer than hens' teeth. The memory slots are placed more centrally than most boards we've seen of late, which means that they're pushed closer to the graphics card slot. This makes adding memory to the motherboard a bit of a chore, as the graphics card needs to be removed in order to do it.

The latest fad among motherboard manufacturers is to throw out noisy

DETAILS

Processor support
Intel Pentium 4, Pentium 4 EE, Pentium D, Pentium XE, Celeron D

Chipset
Intel 955X + ICH7R

Memory
Dual channel DDR2-800

Graphics interface
1 x PCI Express x 16

Expansion slots
2 x PCI, 2 x PCIe x 1

BENCHMARKS

PCMark05 4,538
3DMark05 3,866
Doom 3 102.6fps
Far Cry 1.33 64.28fps
Windows Media Encode 3m44s

chipset fans in favour of much less obtrusive heat-pipe assemblies, and the Abit certainly does this with style. The large block on the north bridge is connected by a thick pipe to an impressive radiator that dominates the ATX backplate. This means that the legacy connectors have been re-housed on PCI brackets, which will use vital slots, particularly as the 7.1 audio card already claims the bottom slot as its own.

Of course, the lack of support for dual graphics cards make this a less appealing solution for gamers, which explains why Intel has seen fit to start the new year by releasing yet another chipset, the i975. It's ridiculous to suggest that this is a worthy option if you think you'll never go down the SLI route, as the likes of

Gigabyte's board shows that you don't have to pay a premium for such support.

61% **PCF says...** "A good mobo, but expensive – particularly for a single graphics platform."



Asus A8N32-SLI Deluxe

Price £142 **Web** uk.asus.com

Previous experience with Asus mobos has brought a little torment into our lives. The features are predominantly wonderful, with ample care and attention to tweaking, but our encounters have always hit problem. Unfortunately, no matter how much we want to love the

A8N32-SLI Deluxe, it doesn't dispel this feeling of unease.

Prior to testing, we had messed around with this motherboard and an FX-60, updating the BIOS only for the motherboard to refuse to boot. Asus does support BIOS resurrection via a floppy disk, but this only worked after we had lost patience, multiple attempts later. Also, when adding the second graphics card for the SLI tests, it refused to boot, before finally resetting the CMOS settings. We would have considered this a one-off problem with the mobo, if it weren't mimicked by the identical Pentium 4 offering. These motherboards may not need the user intervention of the SLI daughter-card, but this is more frustrating.

Problems aside, this is actually a wonderful motherboard as far as

DETAILS

Processor Support
AMD Athlon 64, X2, FX

Chipset
NVIDIA NFORCE4 SLI X16

Memory
Dual channel DDR400

Graphics Interface
2 x PCI Express x 16

Expansion Slots
3 x PCI, 1 x PCIe x 1

BENCHMARKS

PCMark05 4,448
3DMark05 3,664
Doom 3 109fps
Far Cry 1.33 59.79fps
Windows Media Encode 2m49s

the specs are concerned. Every feature you could wish for is present, and it uses NVIDIA's new spin on the NFORCE4, which can drive both graphics slots at x16 speeds. So in SLI, it's fairly future-proof too. If sound pollution is as important to you as it is to us, the fact that Asus has made this a fanless board should appeal too, with its natty heat-pipe technology performing a fine job of shifting heat away from the chipset to the processor.

Despite topping the lists in a few a tests, though, the SLI performance was the weakest on show, and the *Far Cry* frame rate trailed the pack. New BIOSes are being released all the time, but for the time being, we'd recommend looking elsewhere, even back to its predecessor, the ubiquitous A8N-SLI Deluxe. Which is also significantly cheaper.

69% **PCF says...** "Marred by frustrating SLI performance. Quite disappointing."





Asus P5N32-SLI Deluxe

Price £142 Web uk.asus.com

Dell's decision to use NVIDIA's new SLI chipset in its X600 machines wasn't taken lightly – it's the first time a Dell machine hasn't used an Intel chipset. The move to dual x16 performance in SLI mode certainly sweetened the deal, but this was more of a marketing coup than for any tangible performance improvements. The same chipset has been picked by Asus for its latest Deluxe motherboard, but is it really worth spending this much extra?

We should start by saying that we experienced similar problems with this motherboard as we did the AMD model: it refused to reboot on several occasions, and crashed when booting into Windows on changing the graphics subsystem to SLI mode. While it did settle down (and at least there's no card to flip round), it's still incredibly frustrating when you're looking to reap the rewards of two graphics cards.

Problems aside, this motherboard does have a lot going for it: dual Gigabit ethernet ports, twin RAID controllers,

DETAILS

Processor support
Intel Pentium 4, Pentium 4 EE, Pentium D, Pentium XE, Celeron D

Chipset
NVIDIA NFORCE4 SLI X16

Memory
Dual channel DDR2-667

Graphics Interface
2 x PCI Express x 16

Expansion slots 2 x PCI, 2 x PCIe X1, 1x PCIe x 4

BENCHMARK

PCMark05 4,544

3DMark05 3,886

Doom 3 101.8fps

Far Cry 1.33 63.13fps

Windows Media
Encode 3m45s

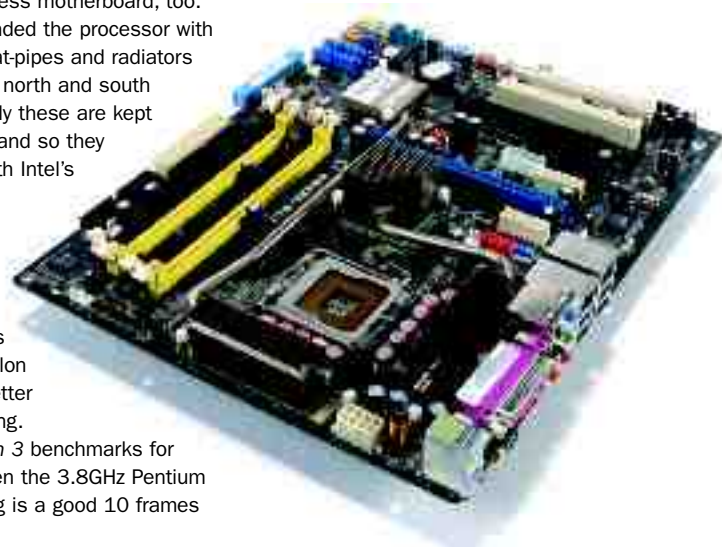
and a wealth of options designed to make this as overclocker-friendly as possible. There is, of course, support for all of Intel's 775 processors, including the Pentium D 820, as well as DDR2 667MHz and 533MHz memory, up to a mythical 16GB, no less.

This is a fanless motherboard, too. Asus has surrounded the processor with all manner of heat-pipes and radiators connected to the north and south bridges. Thankfully these are kept low to the mobo and so they don't interfere with Intel's fan mounting.

The biggest problem for this motherboard, and indeed Intel at the moment, is that the AMD Athlon 64 is simply a better solution for gaming. Look at the *Doom 3* benchmarks for instance, and even the 3.8GHz Pentium 4 used for testing is a good 10 frames

per second behind AMD's much cheaper dual core 3800+.

66% PCF says... "Great design and overclocking potential, but the frustrating setup will irritate."



Gigabyte G1-Turbo

Price £170 Web www.gbt-tech.co.uk

The new 975 chipset from Intel is designed to be all things to all men – in theory it will support CrossFire and SLI configurations. Unfortunately, NVIDIA has locked SLI drivers to its own chipsets for the time being, and CrossFire is still experiencing teething problems.

Spec-wise, all the right boxes have been ticked, including support for Intel's

latest processors (Presler). Apart from the dual PCI Express x16 slots (which work at x8 in dual graphics card mode), the board also features a pair of x4 slots, which work with x1 cards too.

Aimed squarely at the FPS-crazed overclockers among our number, there's a variety of tools to get the most from your processor, including the now obligatory on-the-fly overclocking, as well as plenty of manual tweakage.

Intel has made a lot of noise about its high-definition audio technology, and it is impressive, but we openly embrace the inclusion of the Creative Sound Blaster Live 24-bit audio controller. While audiophiles will still argue that an add-in card is mandatory, in practice, we couldn't fault this at all. We're less convinced about

DETAILS

Processor support
Intel Pentium 4, Pentium 4 EE, Pentium D, Pentium XE, Celeron D

Chipset
NVIDIA NFORCE4 SLI X16

Memory
Dual channel DDR2-667

Graphics interface
2 x PCI Express x16

Expansion slots
2 x PCI, 2 x 4

BENCHMARKS

PCMark05 4,509

3DMark05 3,872

Doom 3 102fps

Far Cry 1.33 63.67fps

Windows Media
Encode 3m42s

the 'Turbojet Technology' though, which is an elaborate housing for the four horizontally mounted fans around the processor and north bridge. Designed to improve airflow and help keep the whole system cool, this is an interesting idea, but the addition of so many moving parts is a concern. The ATX backplate is reduced to a handful of connectors too, with everything else being catered for via PCI brackets.




Gigabyte has some amazing bargains at the moment, but rolling in as the most expensive motherboard here, this certainly isn't one of them. The future potential of this motherboard – as a one-stop solution for dual ATI or NVIDIA graphics cards – is exciting, but until NVIDIA is officially onboard, this is a solution worth watching closely, rather than buying urgently.

74% PCF says... "An intriguing concept that hasn't been fully realised yet."



SPECIFICATIONS AND PERFORMANCE

All the details and small print you need, in one table

| | £63 MSI MS-7093 | £76 Gigabyte GA-8N-SLI Pro | £82 Gigabyte GA-K8N Pro-SLI | £92 Foxconn WinFast NF4SK8AA | £124 Foxconn NF4SLI7AA |
|------------------------------|---|---|--|---|---|
| | 72% | 87% top gear PCFormat | 92% gold PCFormat | 87% top gear PCFormat | 73% |
| |  |  |  |  |  |
| SUPPORTED CPUS | AMD Athlon 64, Athlon 64 X2, Athlon 64 FX | Intel Pentium 4, Pentium D | AMD Athlon 64, Athlon 64 X2, Athlon 64 FX | AMD Athlon 64, Athlon 64 X2, Athlon 64 FX | Intel Pentium 4, Pentium D |
| CPU SOCKET | 939 | 775 | 939 | 939 | 775 |
| FSB SUPPORT | 2,000/1,600 MT/s | 1,066/800MHz | 2,000/1,600 MT/s | 2,000/1,600 MT/s | 1,066/800MHz |
| CHIPSET | ATI RS480 + SB400 | NVIDIA NFORCE4 SLI Intel Edition | NVIDIA NFORCE4 SLI | NVIDIA NFORCE4 SLI | NVIDIA NFORCE4 SLI Intel Edition |
| MEMORY | Dual Channel DDR400/333 | 4x Dual Channel DDR2-667/533 | Dual Channel DDR400/333/266 | Dual Channel DDR400/333/266 | Dual Channel DDR2-667/533 |
| MAX MEMORY | 4GB | 8GB | 4GB | 4GB | 4GB |
| FORM FACTOR | MicroATX | ATX | ATX | ATX | ATX |
| DRIVE INTERFACES | 2 x UDMA 133/100/66 + 4 x SATA | 2 x UDMA 133/100/66 + 4 x SATA 3Gbps | 2 x UDMA 133/100/66/33 + 4 x SATA 3Gbps | 2 x UDMA 133/100/66 + 4 x SATA 3Gbps + 2 x SATA 3Gbps | 2 x UDMA 133/100/66 + 4 x SATA 3Gbps + 2 x SATA 3Gbps |
| GRAPHICS INTERFACE | 1 x PCI Express x16 | 2 x PCI Express x16 (2x PCIe x8) | 2x PCI Express x16 (2x PCIe x8) | 2x PCI Express x16 (2x PCIe x8) | 2 x PCI Express x16 (2x PCIe x8) |
| USB, IEEE1394 | 4, 0 | 6, 2 x IEEE1394b | 8, 2x IEEE1394b + 1x IEEE1394a | 6, 2x IEEE1394a | 6, 1x IEEE1394b, 2x IEEE1394a |
| SOUND CHIP | RealTek ALC658C AC'97 5.1 | RealTek ALC850 AC'97 7.1 | RealTek ALC850 AC'97 7.1 | RealTek ALC850 AC'97 7.1 | RealTek ALC850 AC'97 7.1 |
| NETWORKING | 1x 10/100 Ethernet | 1x Gigabit Ethernet | 1x Gigabit Ethernet | 2x Gigabit Ethernet | 2x Gigabit Ethernet |
| BIOS | 4MB Flash ROM, Award BIOS | 2x 4MB Flash ROM, Award BIOS | 2x 4MB Flash ROM, Award BIOS | 4MB Flash ROM, Award BIOS | 4MB Flash ROM, Award BIOS |
| BENCHMARKS | | | | | |
| SANDRA CPU (INT) | 17,862 | 11,154 | 1,8080 | 18,082 | 11,107 |
| SANDRA MEMORY (FLOAT) | 5,088 | 4,786 | 4,536 | 4,530 | 4,776 |
| PCMark05 OVERALL | 4,391 | 4,545 | 4,453 | 4,448 | 4,542 |
| PCMARK05 (CPU) | 4,060 | 4,852 | 4,084 | 4,094 | 4,866 |
| 3DMARK03 (6600GT) | 8,811 | 9,440 | 8,845 | 8,850 | 9,430 |
| 3DMARK05 (6600GT) | 2,202 | 3,872 | 3,761 | 3,762 | 3,880 |
| Doom 3 | 108.4 | 102 | 110.8 | 109.6 | 102.3 |
| Far Cry 1.33 | 60.59 | 64.09 | 63.09 | 62.86 | 64.11 |

PCFVerdict

You've seen the competitors, but which should you buy?

This Supertest has thrown up some surprising data. We expected it to reveal a slew of costly, cutting-edge boards that were defined by their features and performance. In truth, NVIDIA's domination has made for a rather bland landscape. The difference between the solutions is marginal. Even running the tests

many times and averaging the results, as we have, still makes for subtle variations.

We were most impressed with the AMD mobos based around the original NFORCE4 chipset, which have matured well and have seen prices plummet in response to the new x16 variant. The performance offered by this new

chipset is unproven, and while there may be improvement down the line from new drivers, we can't see individual games making use of such a marginalised market.

The Intel motherboards are far more interesting, but a little trickier if you're looking to

NEXT MONTH
BIGGER PICTURE!
10 WIDESCREEN MONITORS ON TRIAL

135
ECS KN2 SLI**£140**
Abit AW8-MAX**£142**
Asus A8N32-SLI Deluxe**£142**
Asus P5N32-SLI Deluxe**£170**
Gigabyte G1-Turbo**86%****61%****69%****66%****74%**

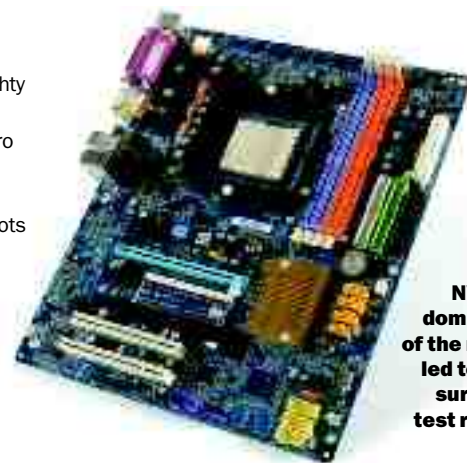
| | | | | | |
|---|---|---|---|---|------------------------------|
| AMD Athlon 64, Athlon 64 X2, Athlon 64 FX | Intel Pentium 4, Pentium 4 EE, Pentium D, Pentium XE, Celeron D | AMD Athlon 64, Athlon 64 X2, Athlon 64 FX | Intel Pentium 4, Pentium 4 EE, Pentium D, Pentium XE, Celeron D | Intel Pentium 4, Pentium 4 EE, Pentium D, Pentium XE, Celeron D | SUPPORTED CPUS |
| 939 | 775 | 939 | 775 | 775 | CPU SOCKET |
| 2,000/1,600 MT/s | 1,066/800MHz | 2,000/1,600 MT/s | 1,066/800/533MHz | 1,066/800/533MHz | FSB SUPPORT |
| NVIDIA NFORCE4 SLI x16 | Intel 955X + ICH7R | NVIDIA NFORCE4 SLI x16 | NVIDIA NFORCE4 SLI Intel Edition | Intel 975X + ICH7R | CHIPSET |
| Dual Channel DDR400/333/266 | 4x Dual Channel DDR2-800/667/533 | 4x Dual Channel DDR400/333/266 | 4x Dual Channel DDR2-667/533 | 4x Dual Channel DDR2-667/533 | MEMORY |
| 4GB | 8GB | 4GB | 16GB | 8GB | MAX MEMORY |
| ATX | ATX | ATX | ATX | ATX | FORM FACTOR |
| 2 x UDMA 133/100/66/33 + 4 x SATA 3Gbs + 2 x SATA 3Gbps | 1 x UDMA 100/66/33 + 4x SATA 3Gbs + 2x SATA 3Gbs | 2 x UDMA 133/100/66/33 + 4x SATA 3Gbs + 2x SATA 3Gbps | 2 x UDMA 133/100/66/33 + 4x SATA 3Gbs + 2x SATA 3Gbps | 1 x UDMA 100/66/33 + 4x SATA 3Gbps | DRIVE INTERFACES |
| 2x PCI Express x16 (2 x PCIe x16) | 1 x PCI Express x16 | 2 x PCI Express x16 (2 x PCIe x16) | 2x PCI Express X16 (2x PCIe X16) | 2x PCI Express x16 (2 x PCIe x8) | GRAPHICS INTERFACE |
| 6, 2x IEEE1394a | 8, 2x IEEE1394b + 1x IEEE1394a | 6, 2x IEEE1394a | 6, 2x IEEE1394a | 6, 2x IEEE1394a | USB, IEEE1394 |
| RealTek ALC850 AC'97 7.1 | Abit AudioMAX HD 7.1 (Dobly Master Studio) | RealTek ALC850 AC'97 7.1 | RealTek ALC850 AC'97 7.1 | Creative Sound Blaster Live 24-bit 7.1 | SOUND CHIP |
| 2x Gigabit Ethernet | 1x Gigabit Ethernet | 2x Gigabit Ethernet | 2x Gigabit Ethernet | 1x Gigabit Ethernet | NETWORKING |
| 4MB Flash ROM, Award BIOS | 4MB Flash ROM, Award BIOS | 8MB Flash ROM, Award BIOS | 8MB Flash ROM, Award BIOS | 2 x 4MB Flash ROM, Award BIOS | BIOS |
| | | | | | BENCHMARKS |
| 18,074 | 11,311 | 18,075 | 11,105 | 11,497 | SANDRA CPU (INT) |
| 5,166 | 4,801 | 4,614 | 4,752 | 4,806 | SANDRA MEMORY (FLOAT) |
| 4,460 | 4,538 | 4,448 | 4,544 | 4,509 | PCMARK05 OVERALL |
| 4,100 | 4,911 | 4,104 | 4,846 | 4,980 | PCMARK05 (CPU) |
| 8,889 | 9,421 | 8,699 | 9,458 | 9,411 | 3DMARK03 (6600GT) |
| 3,762 | 3,866 | 3,664 | 3,886 | 3,872 | 3DMark05 (6600GT) |
| 112.3 | 102.6 | 109 | 101.8 | 102 | Doom 3 |
| 62.82 | 64.28 | 59.79 | 63.13 | 63.67 | Far Cry 1.33 |

buy. It's no secret that Intel's hopes for 2005 didn't exactly go to plan, and things will probably only really turn round for the processor giant after Conroe is released in the second half the year. This is the chip based on the Pentium M processor (with a few trimmings from the latest Pentium 4 chips thrown in to save face), which will finally put to rest the NetBurst architecture that has seen processor fans grow to ridiculous sizes. This makes upgrading to an Intel platform iffy at present – especially if your primary focus is gaming.

One motherboard stands out from the crowd, and it happens to be one of the cheapest

offerings too. A great feature-set, decent performance and a price tag a shade over eighty quid makes for an extremely tempting motherboard to upgrade to. Gigabyte's K8N Pro SLI boasts support for the latest AMD processors, handles all manner of DDR400 memory, and has two PCI Express graphics slots for either a ridiculously powerful graphics powerhouse today, or a perfect upgrade path for tomorrow.

Gigabyte's aggressive pricing makes the K8N Pro SLI a motherboard worth hunting down and pairing up to your Athlon 64 X2 processor. **PCF**



NVIDIA's domination of the market led to some surprising test results.

How to buy...



Al Bickham
GRASPS THE NETTLE

Which graphics card should I shell out for?

It's the question we all want an answer to. And the colossal pain of it all is, the answer changes every month to month. Mercy!

For the top-end, this month has brought us a new king of the hill: the Radeon X1900 XTX. It's a blistering card, knocking the high-end vapourware of the 7800GTX 512MB into touch – but only by a bare couple of frames. It's also around £70 cheaper than the 512, and available now. Midrange-wise, the 6800GS is a really sound bet. It's around £140, and if you SLI a pair of these puppies, they'll make you smile like a wee bairn.

If you're looking to spend less than a hundred quid, the good old 6600GT is still alive and kicking. Examples can be had for around £90 these days, and you'll get solid, playable performance in Quake IV and F.E.A.R., provided you're not trying to crank the resolution and advanced settings to ridiculous levels.

However, there are all sorts of in-between shades. For any budget, there's a right card to buy – and lots of wrong 'uns. That's why our buyers' guides offer more in-depth advice. Just remember – everyone wants your money; only a few deserve it.

PCFormat How to buy kit

ESSENTIAL BUYING ADVICE

Welcome to the PCFormat Buyers' Guide. Over the next few pages, we'll arm you with the information you need to know when you're shopping for PC parts: where to go, what to buy and, crucially, the concepts involved in each key component. Knowledge is power – especially when you're armed with a wallet full of hard-earned notes and you want the best on offer.

It's an interesting time for PCs at the moment, as Intel has just launched its new brand, Viiv. Any PC with a Viiv logo on the box is guaranteed to contain a dual-core processor, networking capabilities, and the ability to view or stream digital media through Windows XP Media Center Edition, which comes pre-installed. Lots of people are making Viiv PCs, but our advice, as ever, is to hunt around for the best deal. Don't just splash the cash: review the contents of the box, as other components can vary wildly.

For the complete Buyers' Guides, see your cover DVD and www.pcformat.co.uk

Jargon Buster

Making sense of the noise

Pipeline panic

GPUs have different numbers of pixel pipelines. Generally speaking, the more the better; however, that's changing as ATI is now using fewer but broader pipes.

Latently obvious

Memory access speed is measured in CAS latency, (Column Address Strobe) or CL – the lower the better. Really fast RAM is CL2 so, when buying, get the fastest you can. Note that DDR still features lower CL than DDR2.

Cache machine

The L2 cache of a CPU is a small block of superfast RAM dedicated to the CPU. Here, the CPU stores recent calculations so it doesn't have to keep doing them. Forget processor speeds: L2 cache size is the major difference between Pentium and Celeron performance.

Panel beater

The millisecond rating of an LCD monitor isn't the only mark of quality. Check the brightness of the panel too. You can game quite happily on a 12ms monitor.

Power supply

Every component needs electricity, and the PSU is where it comes from. When shopping for a new one, ensure it has the right connectors and is a reliable brand. Never opt for less than a 350W model.

Cooling

Your CPU is the toastiest component in your PC. Stock coolers tend to be a bit noisy and not as efficient as they could be, so shop around. Look for big, slow-moving fans, which are cooler and quieter than little, fast ones.

Graphics card

Does your mobo support AGP, or the newer PCI Express standard? Ensure you've got the right card for the slot, and check overleaf for the best cards in every price category.

Turn to page 144

How to buy...

Optical drive

Selecting an optical drive really is a no-brainer these days. Thanks to mass production and streamlining of fabrication techniques, you can now pick up a fast, dual-layer DVD writer, such as the NEC 3540 for about £30. Why bother with anything else?

Front panel controllers

There are loads of different front panel control modules available these days. They can do all manner of things, from monitoring onboard voltages to controlling fan speeds inside your case. It's a modder's paradise out there – check out some of the links to the right, and have a good browse of what's on offer.

Hard drive

Buy SATA over IDE? Not necessarily, the price difference is minimal, but so's the performance gap. High-capacity hard drives offer superior performance in both SATA and IDE flavours; denser data-stacking means the reader has less distance to travel, reducing seek-times. For best speeds, look for a buffer of 16MB+.



Chassis

There's a huge variety of chassis designs around, many of them under £50. The more expensive, fully-featured kind tend to come without PSUs however, so always read the description carefully. Aim for a chassis with a 'screwless' design, which features quick-release sides and snap-fit internals. Uncluttered innards means good airflow and cool-running parts, so look out for cases that have decent ventilation and cable management.

Best buy

Point your purse at this...

Zoostorm 6607 £887

www.pcnextday.co.uk

This complete system makes a perfect gaming and media PC, packing as it does the altogether fruity AMD Athlon 64 3700+ and a gig of DDR400. The 6600GT card is good enough to play most modern games comfortably (and the likes of World Of Warcraft exceedingly well), so there's plenty of poke until you get something bigger...

Under the hood

CPU AMD Athlon 64 3700+

Memory 1GB DDR 400

Video Card NVIDIA 6600GT 128MB

HDD 250GB SATA

Optical 16X Dual Layer DVD RW

Monitor 19" LCSD

Speakers 2.1 desktop

Input MS Keyboard/optical mouse



Recommended

Top PC and component stores

www.aria.co.uk

www.pcnextday.co.uk

www.scan.co.uk

www.komplett.co.uk

www.overclock.co.uk

www.yoyotech.com

READ ON...

Buyers' guide contents

144 Printers and scanners

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148 Monitors/soundcards

Turn
for the
rest

How to buy...

Printers

Getting ink onto paper without making a mess has never been so technical. Now for the science...

For general-purpose printing, a four-ink system usually provides the greatest balance between high-speed and printing quality, with pigment-based inks for rich, solid blacks. It's impossible to recreate the real-world colours of photos using a four-ink process, so most photo inkjet printers use six or more inks to broaden the palette. These models still print general purpose documents, but tend to be slow and only manage greyish blacks.

For the ultimate in printing versatility, most of HP and Lexmark's ranges can switch between four and six-ink modes by swapping the black cartridge for a photo cartridge. Another versatile range includes Canon's five-ink models, like the i865, iP4000 and the new iP4200 and iP5200 printers. These use both pigment-based and dye-based black inks in their lineup, along with cyan, magenta and yellow dye-based inks.

Scanners

Most flatbed scanners use a conventional light-source consisting of a CCF (Cold Cathode Fluorescent) lamp, in conjunction with the same kind of CCD imaging sensor found in digital cameras. The alternative, used in some Canon models as well as the scanners in most MFD (or all-in-one multi-function) printers, is an LED light source as part of a CIS (Contact Imaging Sensor) system. This requires no warm-up time, and standalone CIS scanners can take all the power they need direct from the host PC's USB port, which does away the need for an extra power cable hanging over the back of your already cluttered desk.

Paper Guide

This A3+ photo printer can utilise variable paper widths. To reduce tracking errors, set the guide to the correct position for your paper width.

Output Tray

The output tray is where the printed paper comes out. Some also act as a platform for printing directly onto CDs and DVDs, for top quality movie collections.

Controls and Pictbridge

As well as rudimentary controls for switching the printer on and off, and for pausing and resuming print jobs, many modern printers have a Pictbridge port for direct photo printing straight from a digital camera.

Input Tray

Like most inkjet printers, this one has a single vertical paper input at the rear, which can hold up to 150 sheets of plain paper. Some of the latest models have dual paper trays, enabling you to load plain paper into one tray and a reserve amount into the other tray for specialist photo paper. Handy, as it stops you needing to swap it around.

Ink cartridges

Stored in a transverse carriage beneath this flap are the all-important ink cartridges. HP and Lexmark cartridges tend to have built-in heads, while Canon and Epson printers have separate heads and ink refills.

PCFormat FAVOURITES... Printers and scanners

Why go to an expensive photo developer when you can do it all at

>> Photo Printers



TOP SPEC

Canon i9950 £363 >> PCF178 93%
The daddy of all photo printers, the i9950, stinks of quality. Awesome image quality, reasonable ink costs and it even has a Pictbridge port.
Canon >> www.canon.com

WE ALSO LIKE

Canon Pixma iP8500D £206 >> PCF178 88%
Epson Stylus R1800 £320 >> PCF178 86%



BEST BUY

Canon iP6000D £149 >> PCF178 95%
This budget model in the Canon Pixma range offers tremendous value for money. With quality this high and running costs this low, it's a winner.
Canon >> www.canon.com

WE ALSO LIKE

HP Photosmart 8450 £155 >> PCF178 78%
Epson Photosmart 8150 £93 >> PCF178 75%

>> All in ones



TOP SPEC

PIXMA MP500 £143 >> PCF184 95%
Incorporating a unique 5-ink system that uses dye and pigment-based black, the MP500 offers fast general printing and rich contrast with photos.
Canon >> www.canon.co.uk

WE ALSO LIKE

HP PSC 2355 £100 >> PCF184 88%
Epson stylus CX6600 £75



BEST BUY

HP PSC 1510 £69
Superb print quality and speed for such a low price point. They come cheaper, but you'll start compromising on quality and effectiveness if you do.
www.hp.com

WE ALSO LIKE

Canon Pixma MP130 £80
Lexmark P4350 £63

>> Scanners



TOP SPEC

Epson 3170 £116 >> PCF176 95%
A beast of a machine, the 3170 does everything to justify its purchase, with amazing colour-rendition, consistent quality and plenty of options.
Epson >> www.epson.co.uk

WE ALSO LIKE

Canon LiDE 500F £93 >> PCF176 80%
HP Scanjet 4670 £133 >> PCF176 70%



BEST BUY

Epson 2480 £55 >> PCF176 92%
Dominating both the high and low ends of the scanner market, Epson clearly knows its stuff. For the money, you can't buy better than the 2480.
Epson >> www.epson.co.uk

WE ALSO LIKE

Canon Canoscan 4200F £62 >> PCF176 85%
HP Scanjet 4070 £98 >> PCF176 76%

NEXT MONTH!
Five corking LCD TVs reviewed and rated!

Broadband

Searching for a new high-bandwidth connection?
Simply looking to upgrade? The best deals are right here

Choosing an ISP is like negotiating a minefield. Seriously, there are so many service providers and packages these days. It's important to look at several things – cost for the service being paramount, but also whether the service has a download cap or peak-time throttle. Neither are good if

you're spending all day MMOGing. It's also worth noting that Be, the internet provider, is starting a pay-as-you-go service. Be Lite offers 24Mb connection speeds for under £15 a month with an initial usage allowance that can be topped up later if needed. Take a gander at www.bethere.co.uk

Jargon Buster

Baffled by science?
Let us explain the unexplainable...

ADSL

A type of broadband connection in which the download speeds are faster than the upload speeds, hence the acronym for Asymmetric Digital Subscriber Line. Currently, it's the only DSL available for most home users in the UK and it uses standard BT phone lines.

Bandwidth

The amount of data that can be transmitted and received by your connection at the same time. Bandwidth is usually measured in bits-per-second (bps).

Cable

A broadband type that connects via a fibre optic network (such as NTL). It lets you access premium TV through the same cable.

Contention Ratio

You share your bandwidth with other people; up to 49 users if you are on a cable modem. The higher your contention ratio (in this case 49:1), the chuggier the connection.

Download cap

All broadband packages used to be unlimited. Now many providers restrict the amount of data you can download per month. Caps are expressed in GB and if you exceed them, you may have to pay extra.

LLU

Local loop unbundling. Many Telecoms companies and ISPs access the former incumbent's local network (ie BT) to provide services directly to the customer.

ADSL2+

A connection type that is quicker the closer you live to the network exchange. Expect speeds up to 24Mbps if you're lucky enough to live near the exchange, but do check local availability.

PCFormat FAVOURITES Who you gonna call?

Choose the ISP that best suits your net needs

>> Light

The best broadband options for budget-conscious emailing and fast web browsing

Simply Broadband Max
SPEED 512Kb
MONTHLY COST £15.95
CAP 10GB
FIRST YEAR COST £191
MIN CONTRACT One month
Simply >> www.simply.com

BT Broadband
SPEED 2Mb
MONTHLY COST £14.99
CAP 2GB
FIRST YEAR COST £206.82
MIN CONTRACT 12 months
BT >> www.bt.com/btbroadband

Virgin Net
SPEED 512Kb
MONTHLY COST £14.99
CAP 3GB
FIRST YEAR COST £179.88
MIN CONTRACT 1 month
Virgin >> www.virgin.net

Home LITE
SPEED 512Kb
MONTHLY COST £11.95
CAP 1GB
FIRST YEAR COST £190.40
MIN CONTRACT One month
NewNet >> www.newnet.co.uk

ToucanSurf Broadband
SPEED 1Mb
MONTHLY COST £14.99
CAP Uncapped
FIRST YEAR COST £179.88
MIN CONTRACT 12 months
Toucan >> www.toucan.com

>> Medium

The perfect choice for those who surf for three hours a day and play games online

PlusNet Broadband Premier
SPEED 2Mb
MONTHLY COST £21.99
CAP Uncapped
FIRST YEAR COST £263.88
MIN CONTRACT One month
PlusNet >> www.plus.net

Supanet
SPEED 2Mb
MONTHLY COST £17.99
CAP Throttled after 30GB
FIRST YEAR COST £215.88
MIN CONTRACT 12 months
Supanet >> www.supanet.com

IC24 Broadband
SPEED 2Mb
MONTHLY COST £16.99
CAP 5GB
FIRST YEAR COST £182.88
MIN CONTRACT 12 months
IC24 >> www.ic24.net

ToucanSurf Broadband
SPEED 2Mb
MONTHLY COST £15.99
CAP Uncapped
FIRST YEAR COST £191.88
MIN CONTRACT 12 months
Toucan >> www.toucan.com

Unlimited Broadband
SPEED 1Mb
MONTHLY COST £24.99
CAP Uncapped
FIRST YEAR COST £358.63
MIN CONTRACT 12 months
ADSL 4less >> www.adsl4less.com

>> Heavy

The best option if you BitTorrent your PC's socks off right around the clock

Be Unlimited
SPEED Up to 24Mb
MONTHLY COST £24
CAP Uncapped
FIRST YEAR COST £312
MIN CONTRACT Three months
Be >> www.bethere.co.uk

Bulldog Inter@ctive
SPEED Up to 8Mb
MONTHLY COST £21.50
CAP Uncapped
FIRST YEAR COST £258
MIN CONTRACT One month
Bulldog >> www.bulldogbroadband.com

Telewest Broadband
SPEED 10Mb
MONTHLY COST £35
CAP Uncapped
FIRST YEAR COST £420
MIN CONTRACT 12 months
Telewest >> www.telewest.co.uk

Broadband UK Online
SPEED 8-22MB
MONTHLY COST £29.99
CAP Uncapped
FIRST YEAR COST £439.87
MIN CONTRACT 12 months
UK Online >> www.ukonline.net

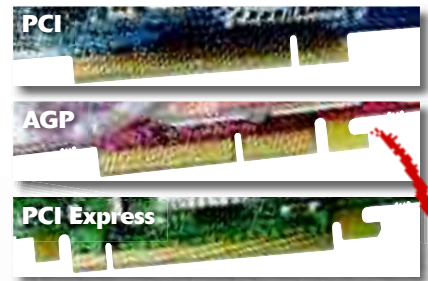
ADVICE!

Thinking of going wireless? Then make sure you invest in a setup (router and wireless card/USB receiver) that supports the 802.11g standard at the very least.

Graphics

Courting media attention and costing the Earth, the 3D card is the supermodel of components

Ever the limelight seeker, the graphics card is an essential part of any gaming rig. It's also a shopper's minefield. High-end cards are powerful yet shockingly expensive, but frequently don't warrant the outlay; today's whizzy budget cards, such as ATI's X800GTO and NVIDIA's 6600GT, are great performers for the price, and make more sense financially. Also worth noting, NVIDIA has lately revised its 7800 series with a new top-end card to compete with ATI's X1800XT. The top-end 7800GTX now has 512MB GDDR3 RAM, running at 1.6GHz.



Active cooling

Fans and heatsinks are efficient, cost-effective and ubiquitous – though they can be noisy.

Passive cooling

Fanless coolers are silent, but run hotter than active cooling. Ideal for media centre PCs and silent setups, but not advised for overclocking.

Core speeds

The GPU (that's Graphics Processing Unit to you) is the heart of the card. Clock speeds are measured in MHz – the same as CPUs.

Pixel shaders

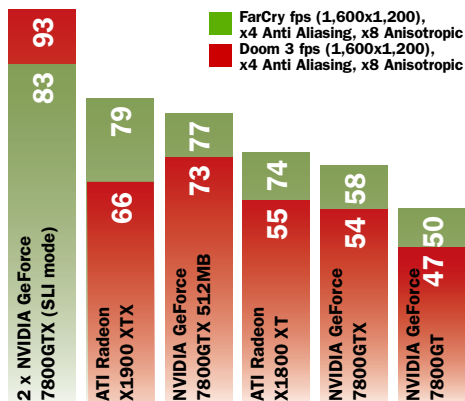
A library of routines that enables the lighting and texturing of surfaces on a per-pixel basis, which makes for amazingly detailed visuals. The latest version – Shader Model 3.0 – enables techniques such as high dynamic-range lighting.

Pixel pipelines

The amount of data that can be put through a graphics card at once is partially governed by the number of pixel pipelines that a card boasts. The number of pipelines present on a graphics card reflects the number of pixels that the graphics card can process and render simultaneously in an highly optimised hardware stream.

Benchmarks

How the top cards stack up...



PCFormat FAVOURITES... Graphics cards

The best cards that money can buy, in all the categories that count

>> Money no object



TOP SPEC

X1900 XTX £470 >> PCF185 90%

Putting all its eggs in the pixel shading basket, ATI's latest just about beats the 7800 into second place. For now it's the fastest single card around.

ATI >> www.ATI.com

WE ALSO LIKE

GeForce 7800GTX 512 £479 >> PCF182 92%
X1800XT £293 >> PCF181 90%



BEST BUY

7800GTX 256MB £299 >>

As good as any other GTX on the shelves, but the minimal bundle knocks this awesome card down to a mere £300 – £50 cheaper than other GTXs.

PCBuyIt >> www.pcbuyit.co.uk

WE ALSO LIKE

Asus N7800 GTX £335 >> PCF183 81%
Radeon X1800XL £230 >> PCF183 89%

>> Sub £200



TOP SPEC

Sapphire X800 GTO2 £141

Featuring the core from the X850XT, this new mid-range card features awesome poke, and a price tag that won't make Richard Branson blush.

Sapphire >> www.sapphiretech.com

WE ALSO LIKE

Asus N6800GT £180
Leadtek Winfast 6800 £120



BEST BUY

NVIDIA 6800GS £137 >> PCF183 86%

The replacement for the brilliant GT version packs fewer pipelines and vertex units, but still delivers improved performance over its older brother.

XFX >> www.xfxforce.com

WE ALSO LIKE

HIS X800GT IceQ 2 Turbo £130 >> PCF181 84%
Radeon X800 GTO £127

>> Sub £100



TOP SPEC

Radeon X800GT £94 >> PCF180 88%

Made by ATI partner Powercolor, this budget card is a bargain: an eight pixel-pipe version of the X800, with 256MB GDDR3. Plus, it overclocks well.

Powercolor >> www.power-color.com

WE ALSO LIKE

FX 6600GT £94
Abit RX700 LE Guru £92 >> PCF181 71%



BEST BUY

Sapphire X700 £79

With performance approaching that of NVIDIA's 6600 chipset, the Radeon X700 is a great budget choice, and Sapphire's offering is a bargain.

Sapphire >> www.sapphiretech.com

WE ALSO LIKE

Forsa 6600 £75 >> PCF181 70%
FX 6600 LE £56

LCD monitors

Now is the time to finally dump your old CRT. Flat panels are good for games and reasonably priced

The monitor is one of the single most important components of your PC setup. It's going to be displaying visuals for you for the next few years; that's why we always say secure the highest budget you can and shop very pickily within it. And don't be swayed simply by the response-time (ms) rating – if the fastest panel in the world has a low level of brightness and washed-out colour, it's about as useful as shoes on a snake. Wherever possible, try before you buy and check the panel against others in the same price-range. When you've found the one you like, shop around for the biggest bargain.

Font of wisdom

Some TFT monitors, usually those of the 'cheap and cheerless' variety, suffer from a coarse pixel pitch. This results in poor font rendering, which becomes painfully apparent while word processing or browsing the Internet, and can lead to a dose of eye-strain with extended use. Always check our reviews before splashing out, and try before you buy.

Look out for...

Crucial factors to bear in mind

Native resolution

Run an LCD at less than its native resolution, and things look mucky. Ideally, you want a resolution of 1,280x1,024 or better, backed by a 3D card that can broadcast at that size.

Response times

High response times mean reduced ghosting, and a ghost-free TFT is the gamer's holy grail. Look for panels with lower than 12ms ratings. Don't forget to check sharpness, text legibility and brightness though.

Brightness

A pin-sharp image is nothing without high-quality lamps in the back of the panel, zinging the visuals to life. A dull panel makes for drab graphics.

Colour fidelity

When trying out a monitor, take the colour reproduction into account, and check the panel against its price-bracket peers. If it's not putting out warm, vibrant colours, then move along: nothing to see here. This is where in-store beats online shopping.

Size is everything

The bare minimum size for decent gaming is 19-inch, in our opinion, and if you budget £250-£350, you can guarantee a gorgeous screen that you'll be pleased to use for years. And if you buy one that's been on the market for the last six to 12 months, you're raising the odds of bagging a bargain still further.

ADVICE!

Any port in a storm? Wrong answer. DVI ports beat VGA ports with an effortless backhanded slap, so if you've DVI-out on your 3D card, make sure you get a monitor with DVI-in.

PCFormat FAVOURITES... Flat-panel monitors

From misers to millionaires, panels to suit every pocket

>> 17-inch monitors



TOP SPEC

Sony SDM-HS75P £242 >> PCF175 89%

Using Sony's XBlack screen technology, the HS75P is a 17-inch par excellence. It features a startlingly bright display with a decent response time and crystal-clear images – and now for well under the £300 barrier.

Sony >> www.sonystyle.com

WE ALSO LIKE

Samsung Syncmaster 730MP £339 >> PCF177 78%

AG Neovo M17 £142



BEST VALUE

Digimate L1715 £140 >> PCF177 79%

Not a work of design that Philippe Starck would gladly put his name to, but this Digimate monitor does the job on a budget, and it does it rather well. With a native resolution of 1,280x1,024 and being a bright panel, it's great value.

Digimate >> www.digimate.com.uk

WE ALSO LIKE

Hyundai Imagequest B70A £155

Iiyama E437S-S £173

>> 19-inch and over



TOP SPEC

Dell 2405 FPW £662 >> PCF176 95%

Simply astounding. That's the only way to describe Dell's 24-inch monster. It boasts incredible performance in all areas, and a panel this big has to be seen to be believed. Incredibly, it's also around a third cheaper than other monitors its size.

Dell >> www.dell.co.uk

WE ALSO LIKE

BenQ FP91V+ £220 >> PCF177 87%

Viewsonic VX922 2ms £288 >> PCF183 82%



BEST VALUE

AG Neovo M-19 £217 >> PCF177 88%

Love or hate the design, the AG Neovo M-19 is bright, fast, and exhibits a subtle and tight level of image-control pretty much unmatched by its peers. It even rivals the Dell 2405 FPW for colour accuracy. For the price, it's a great performer.

AG Neovo >> www.neovouk.com

WE ALSO LIKE

AG-Neovo F-419 £179

Hyundai Imagequest L91A £216

How to buy...

Games

With the days getting longer it's time to shut out the light once again and play more games.



Football Manager 2006

The king of management titles has been hovering around the top spot since release, but can it hold off rivals like LMA and CM?

The Sims 2: Nightlife

The second expansion pack for *The Sims 2* sees your little computer people hanging out in the happening nightspots of the new 'downtown' areas.



World of Warcraft

The world's favourite MMO, and subject of game graffiti, has popped back into the charts.

UK Games sales

LEISURE SOFTWARE CHARTS COMPILED BY CHART TRACK © ELSPA UK LTD - WWW.ELSPA.COM

| POSITION | MOVED | GAME TITLE | PRICE | MONTHS IN CHART | ISSUE |
|----------|-------|-----------------------|-------|-----------------|-------------|
| 1 | ✚ | Football Manager 2006 | £20 | 3 | PCF 181 90% |
| 2 | ✚ | The Sims 2 | £20 | 17 | PCF 166 92% |
| 3 | ✚✚ | Age of Empires 3 | £30 | 2 | PCF 182 78% |
| 4 | ✚ | The Movies | £20 | 2 | PCF 182 89% |
| 5 | ✚ | Call of Duty 2 | £25 | 2 | PCF 182 88% |
| 6 | ✚✚ | The Sims 2: Nightlife | £20 | 4 | PCF 180 80% |
| 7 | ✚ | Civilisation IV | £30 | 2 | PCF 181 92% |
| 8 | ✚ | Quake 4 | £20 | 3 | PCF 181 88% |
| 9 | ✚ | Black and White 2 | £20 | 3 | PCF 180 67% |
| 10 | ✚ | World of Warcraft | £35 | 12 | PCF 170 92% |

HAVE YOU PLAYED?

Feeling out of the loop? Here's some you might have missed.

TOCA Race Driver 3 £35

Codemasters has stepped up to the challenge set by GTR and produced a game so full of petrol-guzzling beasts that everyone will find something suited to their level of driving talent, whether that's the Ultima GTR or a lawnmower.

PCF 184 88%

>> www.codemasters.co.uk/games



Eve Online: Red Moon Rising £10

This behemoth of a game spans galaxies, and now has ships over 20km long! Play has been smoothed out greatly in this update. Where things would take an age to effect before, now they're as easy as asphyxiating in deep space.

PCF 184 88%

>> www.eve-online.com



Brothers in Arms: Earned in Blood £20

This sequel didn't really take the singleplayer game further, but then didn't take out any of the great stuff. Marrying the best bits of *Full Spectrum Warrior* and *Call of Duty*, this is one of the best tactical shooters around.

PCF 180 80%

>> www.brothersinarmsgame.com



RE-RELEASES THIS MONTH

A second chance to buy some classics at a bargain price



Spellforce

Sold-Out >> £4.99

With the second instalment of the series lurking just around the corner like an angry mage it's time to re-acquaint yourself with the original. A solid mix of RPG questing and RTS battling awaits.



Championship Manager 4

Sold-Out >> £4.99

The first time the top down 2D pitch graphics were used in Sports Interactive's excellent management sim, and the last time they did a full re-work of the game under Eidos.



Worms Forts

MAD >> £9.99

The second 3D offering from Team 17's *Worms* series traded the destructible environs of the 2D classic for the base building of a more traditional RTS. Not a very good game, though.



Medieval Total War Battle Collection

PC Gamer Presents >> £9.99

Released just as news of the sequel reaches our ears, this collection combines both the Viking Invasion expansion and the Medieval original in one box for the first time. Brilliant.

The Mod Squad

Extras for your favourite games



GoldenEye: Source

Game Half-Life 2

Web www.goldeneyesource.com

As the name suggests, *GoldenEye: Source* is a multiplayer mod for *Half-Life 2* based on the N64 console's seminal FPS. The original was one of the main reasons for the success of the machine, initiating thousands of players into the world of safely killing your friends with big guns. Using the gorgeous Source engine, Cyber Genetic Studios has brilliantly recreated the old maps, accurately modelled many of the old weapons, and, most importantly, somehow translated the feel of an updated *GoldenEye* deathmatch. Anyone who didn't play the original should at least take a look, the rest of can expect hours of nostalgia-fuelled mayhem and screams of "No, Mr Bond, I expect you to die!"



Into Cerberon

Game Doom 3

Web chmodoplus.com/IntoCerberon

We know that *Doom 3* was about as popular as a dose of food poisoning from your local takeaway, but the rather excellent, though decidedly ancient *Descent* was huge (if for some reason you need reminding why, just look at p157). This mod throws you fully into the six degrees of freedom that made the original game such a motion-sickness inducing classic. At the moment the 0.0.1 release just features a couple of maps, one ship and a few bugs, but has all the multiplayer capabilities to get you battling in full 360 movement. Eventually there are plans for a singleplayer campaign as well and the *Descent*, escape-before-the-reactor-blows, 'Meltdown' mode. T-minus ten seconds...

HONOURABLE MENTION



Europa Barbarorum

Although the name might suggest that this mod may have been superseded by the official *Barbarian Invasion* expansion, it was actually designed to be a total conversion recreating the time period as accurately as possible. All the old models have been removed and replaced with new units, and the diplomatic relationships have been changed with realistic consequences to breaking alliances. The new campaign map also adds plenty of play.

Game Medieval Total War

Web www.europabarbarorum.com



Beta Eater

Try out the latest MMOs before anyone else...

Spring has sprung, the grass is wet and things are sprouting out of the ground. We've been busy in the digital garden centre and secured you hungry Eaters 50 places on the not really horticultural space-opera, **Seed**. Promising player-based



delicate gaming palates. Take a look at **Massive Assault Network 2** if your tank and explosion quota hasn't been filled this month. You can find this turn-based strategy romp at www.massiveassaultnetwork.com. Taking a trip back to the Orient (Korea, not Leyton)



democracy and in-game politics, plus comic-book 3D graphics, it's looking tasty. Mail betaeater@futurenet.co.uk with the subject 'Allow me to receive your Seed.'

We've also rooted out a couple of open betas for your



we've found an online martial arts fantasy MMORPG so you can test your warrior skills against the rest of the world. If a bit of kung-fu, or even chop-sokey, tickles your fancy, **Martial Heroes** is at www.martialheroes.com.



PCF'S SELECTION Games

Form is temporary, but class is permanent – the games we're *still* hooked on

>> Flight Simulation



MUST-PLAY

Falcon 4.0 Allied Force £25 >> PCF N/A

The game that stole many waking hours from our collective youths is back for its fourth incarnation and it's better than ever. For the first time we are treated to our civs in glorious 3D, but all the old playability is still there in abundance.

Graphsim Entertainment >> www.graphsim.com



UNSUNG HERO

Pacific Fighters £10 >> PCF 168 **81%**

While it may be knocking on a bit now it still stands up in the realism stakes. The single player mission may lack the in depth campaign mode of some of its contemporaries, but the number of aircraft and excellent multiplayer make up for it.

Ubisoft >> www.pacific-fighters.com

>> Action Adventure



MUST-PLAY

Beyond Good & Evil £30 >> PCF 158 **80%**

This has got everything: a decent, carefully woven plot, graphical flair, and a challenge that's perfectly balanced. There's enough here to keep both hardcore gamers and occasional players happy.

Ubisoft >> www.beyondgoodandevil.com



UNSUNG HERO

Psychonauts £25 >> PCF 176 **91%**

Undoubtedly one of the most surreal games we've had the pleasure to play, but also one that is utterly compelling. As a psychic, you jump into people's heads to fix what's wrong with them. Twisted levels and a funny script make this a classic.

Majesco >> www.psychonauts.com

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Restart

THE GAMES WE'VE LOVED

Colin McRae Rally 2.0

REDISCOVER Easily the best way to wallow in filth

Scottish rally ace Colin McRae's name is synonymous with a range of successful video games. While the first *CMR* did appear on the PC, The series really hit its stride with *Colin McRae Rally 2.0*. *PCFormat* had a blast this month, whistling through forests, flinging cold mud at even colder spectators.

The problem rally games always face is that rallying, by definition, is a fairly solitary sport. Rather than a direct race between cars, this is just you against the clock and the environment. *CMR2* does have an arcade mode that allows proper races, but for the real

excitement of competition, the LAN is king.

Rather than taking turns, you race against ghost cars, making it a very pure driving experience. There's still no one to blame but ourselves when we sail through the air at 100mph and land upside down in a tree, though.

By the end of a stage, *PCF*'s car was all flapping doors and dragging bumpers, but half the fun is struggling against your opponents with a damaged motor. Best of all, with one copy of the game, you can perform network-only installs and race against up to eight mates for hours.



CMR2's car and damage models were stunning on release, and hold up well even now.

FALSE PROPHETS

"IT IS UNLIKELY THAT WE WOULD STOCK IT OR THE BACK CATALOGUE OF THE ARTIST IN QUESTION." HMV BOSS BRIAN MCLAUGHLIN GOT SHIRTY ABOUT THE PROSPECT OF ALBUMS BEING RELEASED ON THE NET BEFORE THEY GET TO THE SHOPS IN PCF103. WE BET HE USES ITUNES NOW...

Simutrans

With the release of *Tycoon City* (reviewed on page 92) we've all been bitten by the urge to build a giant metropolis that runs with clockwork efficiency, and then bulldoze the houses to create a road network that spells our names. Luckily *Simutrans* resurrects the joy of the classic *Transport Tycoon* and is available as freeware from the amateur team's website. While nowhere near the scale of, say *Sim City 4*, this is a diverting and enjoyable little game.



Get more info about Simutrans at www.simutrans.de

Mouse scanner

REINVENT Your mouse sees all and knows all, the secret is teaching it to speak...

The theory behind the optical mouse technology is simple – the device records the movement of the surface beneath it using an LED and a tiny monochrome CCD camera. We take this for granted, but one Jeroen Domburg clearly does not. Spotting the similarities between the humble rodent and handheld monochrome scanners of yore, he set about coding and rewiring his way to a workable prototype. The app he's developed, called *Readmouse*, is available on Jeroen's own website (sprite.student.utwente.nl/~jeroen/projects/mouseeye) and, as you can see, actually produces legible text. Unfortunately, as Domburg admits himself, the current results are somewhat "patchy", but the possibilities are clear. A mouse that could be switched to a text scanning function (without rewiring) would mean documents could be 'read' into to a word processor simply by running your mouse over them, rather than negotiating the flappy lid and contrary software of most flatbed scanners. Just don't go pirating your copy of *PCFormat*, alright?

The tech may be in its infancy, but the possible uses of 'scanning' mice are endless.



"ALIEN SWARM WASN'T INFLUENCED BY ANY SINGLE GAME. I'M A BIG FAN OF X-COM, THOUGH, AND WANTED TO MAKE A GAME WITH A STRATEGIC EDGE TO IT"

John Sutton, Developer, Alien Storm



MARCH
1995

GAME
DESCENT

SCORE
PCF 42, 92%

REMEMBER...

Descent had our heads spinning with its mix of 360° combat and tension. Claustrophobia has never been this much fun...

Leaping athletically over the raycasting engines that powered the first two *Doom* titles, *Descent* placed you in an enclosed, zero gravity environment which allowed for complete 360° movement, literally turning the genre on its head (to dust off an old, but not forgotten, cliché). You found yourself in a lunar mining complex, sitting in a nippy spacecraft and in the dubious company of a horde of mining robots gone haywire.

Needless to say, losing your orientation was par for the course in *Descent*, as coming into a corridor from a new angle often meant that it looked entirely different. This became even more of an issue when you destroyed each level's fusion reactor, triggering an ominous countdown and a willy-nilly escape through tunnel sections that you only vaguely recalled. Making it to the exit in time treated you to the fantastically satisfying view of your ship riding the explosive shockwave of a facility going supernova. *Descent* is a game that is rightfully considered a classic in the annals of PC gaming and got all the acclaim it deserved from an awestruck PCF team. **PCF**

ALSO OUT THEN...



DARK FORCES

Many have fond memories of this *Star Wars* FPS. Slick graphics and 3D effects made this a visual feast, but the weapons and level design weren't quite up to the daddy of the genre. Taken as a precursor to *Jedi Knight*, though, it was a solid foundation for a great series.

SCORE
PCF 87%



HELL

This 'cyberpunk thriller' was Dennis Hopper's first foray into game voiceover work (later redeeming himself with an engaging turn as a porn producer in *GTA: Vice City*). The game itself fell at the first fence of the mid-90s obsession with interactive movies;

SCORE
PCF 50%



VIRTUOSO

This awful faux-3D shooter peddled itself on its CD-quality 'rawk' soundtrack and digitised main character. A shame, then, that the gameplay and graphics were so dire. Alongside *Descent* and *Dark Forces*, natural selection always looked certain to prevail.

SCORE
PCF 18%

Looking Back

THE CREATOR'S CRITIQUE



Fact File
Tea leaf

Subject Robert Graham
Job title Designer
Developer Black Cat Software



Alien Swarm will bring back a welter of fond memories for anyone who played the classic Eighties Amiga shooter *Alien Breed*.



Moving through wide open areas like this is a little tricky. Nasties can appear from all sides.

Thievery and Alien Swarm

Kieron Gillen crosses paths with Black Cat and finds great mods have nothing to do with luck...

We live in a time when the company that makes your favourite games may not even be 'traditional' a game developer. It could be a mod team, for example. Now, we've had superstar mods crossing over, their personnel and games being picked up by professional developers. We've had mod teams make direct sequels to their previously successful games. What we've seen less of is a team who'll make one successful mod, then have the restless creative energy to go out and do

something just as good, but complexly different. With *Thievery UT* and *Alien Swarm*, that's exactly what Black Cat Software did.

MIRROR MIRROR

Thievery UT, a genuinely brilliant multiplayer version of Looking Glass classic *Thief* using *Unreal Tournament*, was only prompted by its inspiration's demise. "I agitated for the idea of a multiplayer *Thief* after Looking Glass closed its doors," says Graham. "The novel idea of the mod attracted some talented individuals, and it's thanks to Looking Glass we're still here." Desire to pay homage and determination to progress were key motivating factors. "Like climbing Mount Everest, *Thievery* was an obvious idea which had not been done before and also became a tribute to LGS," Graham enthuses. "Imagine, pouring all their heart into an intelligent game, and at the end given the 'freedom' of unemployment, with their collaborative work the 'intellectual property' of a coterie of idle managers! Truly a vorovskoy mir as the Russians used to say." That's 'world of thieves', for those readers who aren't well versed in Russian.

After the release of *Thievery*, Black Cat resisted the urge to do a sequel, and went in a different direction instead. In fact, something that was primarily for themselves – a co-operative top-

down *Alien Breed*-style shooter. "*Alien Swarm* was a game which my friends and I really wanted to play," describes Project Lead Jon Sutton, It's a culmination of a whole bunch of game and movie influences over the years. The top-down perspective has fallen out of favour somewhat recently, with the push for ever more realistic 3D graphics, but top-down is perfect for co-op play, as it gives you a clear picture of the action. It shows you exactly what you and your squad mates are doing. There wasn't anything quite like it out there so we decided to make it ourselves. Originally *Alien Swarm* was never planned to be released, it was made just so we could play it!"

Choosing technology for a mod team is a different issue for a professional one. Just because you have more options, in that financial constraints of buying one doesn't come into play, you still have to weigh up. "As a modding group for a multiplayer 'version' of *Thief*, we needed an engine with similar capabilities as *Thief 2* – especially in terms of lighting techniques – but with solid network code as well." Graham describes their thought process: "*Unreal* fitted this bill pretty well, much better than, say, *Quake III*, which was the big alternative at the time." However, once you've made that initial leap to choose an engine, the familiarity can cement you with it. "We didn't consider using anything but the engine we knew for *Alien Swarm*. By that time, we'd had years of experience with *Unreal* and so could implement our ideas very quickly," Sutton notes, "We'd reached engine enlightenment and no longer asked ourselves 'What can we do?' and were asking 'What do we want to do?'"

This learning curve was one of the things which made the two games have very different development pathways. For *Thievery*, they were learning the tools. For *Alien Swarm*, executing their mastery of them. Graham puts it succinctly: "The problems that faced *Thievery* were the same



Teamwork is an essential part of *Thievery*.

Developer Diary

Mobile phones are a moving target for go-it-alone coders, says Owain Bennallack



Last month, EA paid \$680 million for Jamdat, a US mobile games publisher. EA has acquired many companies over the years, but this is the most cash it's ever spent on a single outfit,

and one that most gamers have probably never heard of.

That amount of money buys you an awful lot of text messages – yet research reveals only about 1 in 20 mobile phone owners have downloaded and played a mobile phone game. EA didn't become the industry's biggest publisher through bad maths, though. The same research predicts the phone market will be worth \$11billion by 2010.

If you're tired of trying to get attention in the independent PC games market, you might see an opportunity here. The good news for wannabe mobile moguls is that the better (not the best) mobile phones are roughly equivalent to Amigas in power, which means their games are well within the capabilities of a one or two-man team. You'll have to learn Java, but it's relatively straightforward as programming languages go. And unlike PC and console game development, which is pushing the abilities of today's best games artists to their limits, mobile graphics are easily created. Best of all, you can sell direct to the consumer via a download: the straight-to-market nirvana of online distribution, and on a platform where people are used to paying for ringtones and the like.

Sounds too good to be true? It is. For starters, your game must work on dozens of different handsets: porting and testing can dwarf initial development time. Second, your title will probably never even be discovered unless you get signed by a mobile publisher, and they're reluctant to talk to start-ups. Finally, lots of mobile games are poor, so big games pushed heavily on operator channels such as Vodafone Live! outsell original efforts.

For this reason, many independents like Jamdat have sold themselves to established rivals in recent months. There are still fortunes to be made in mobile, but finding them will be harder than making the games themselves.

Owain is the Editor of *Develop* magazine.



Hiding from guards is of paramount importance, and gets harder as you progress.

as any new mod team today – lack of experience, problems of motivation and getting people to do complex work for free.” Things were different later on *Alien Swarm*. “*Alien Swarm*’s development was pleasantly smooth. When we came up with the original idea and saw that it could work with a quick overhead cam prototype, I immediately stopped any coding and sat down to plan exactly how the game would work,” explains Jon, “I wrote pages of design documents, planning everything from the high level game design down to specifics on what data structures would be used for the various bit of the game logic and so on.

STAY IN TOUCH

The main problem that mod teams face is one of simple communication. When your programmer is living in London and your graphics artist is on a boat in the middle of the Atlantic, things can get tricky. How did Black Cat deal with distributed development? “We organise ourselves as a sort of informal cooperative, with the work delegated to those willing to take it on,” explains Rob, “The core teams are generally small, and we usually have a lead designer who also plays a key role in another area of development, such as mapping or coding. This sort of development has actually become easier in recent years, with the widespread adoption of broadband, better conferencing facilities, and technologies like wikis and CVS (version control systems) as well as accumulated experience of how to do things the right way. Of course the complexity of the work has also increased, and circumventing the inane

‘race to photo-realism’ that this entails is something we’re into right now.” Flexibility is a key word. “Everyone has a different level of involvement in the project, based on how much free time they have and how interested they are in it,” explains Sutton, “This can be frustrating at times, when you really want a particular feature or a piece of work done, but the person working on it is too busy. On the other hand, this style of development means people only work when they really want to and the end result of that process is a game with soul.”

That’s the key. For a mod team, the point has to be a game that you want to play. “I’m always impressed with the atmosphere in *Thievery* though. You don’t often

find that in a multiplayer game, where competition strips it down to bare essentials and hurried chat between players pulls you back to reality, but *Thievery* definitely has it,” Sutton describes, “Exhaustingly so at times.” *Alien Swarm*’s atmosphere is a far more hectic and tangibly claustrophobic thing. “It’s great fun, even when it all goes horribly wrong and you end up all torn to pieces, or there’s a friendly fire accident involving a flamethrower and an ammo bag,” Sutton grins, “It’s a thing of beauty when you see a squad of players who know their stuff, all moving in sync, taking up positions automatically, covering all the angles, each one doing their part to make the mission work.” Both games reveal that the thing about making a game you want to play – that, often, it’s exactly what someone else wants to play too. **PCF**

“People only work when they want to, and the result is a game with soul”

The mod couple

Black Cat’s big guns have some tips for home coders

If someone wanted to start coding at home, what advice would you give? “Have a passion for your ideas – but remember the practical work comes first,” argues Graham, “Learn to use all the technologies, what you’re capable of, and what

you have a right to expect from people before making plans. And please, no more military shooters! Apart from their attitude to war, they are also tend to be full of crates”. “You need to find some really passionate core team

members, at least one programmer and one artist who have a deep level of attachment to the project,” argues Sutton. “Contributors come and go, but it’s those core team members who’ll make your game actually happen.”



Believe it or not, our offices really are this nice.



The USS Enterprise has been successfully repurposed.



Future's famous photo wall.

WIN!

A day at the PCFormat offices

Your favourite magazine needs you – to come and play games with us for a whole day

We're not going to go off on some self-aggrandising trip here – the life of a lowly games journalist is governed by print deadlines, late review code and poor diet, while pecuniary reward is low. If, however, you've always wondered what it's like to review 10 PCs and three games in one day, while surviving on pizza and bad coffee, then we have the opportunity you've been waiting for.

For issue 188's Supertest, we're not just going to tell you what we think about the 10 PCs in our labs, we want you to actually try them. So we're looking for 10 readers to come to our Bath offices

for a day (April 4th) and take part in an all-day LAN event. We'll feed you and pay train fares (although our budget won't extend to an overnight stay, sorry), and you'll get to meet the team, see the offices in which your favourite organ is made and find out what it's like to be James Carey for 24 hours. All we ask in return is a little feedback on the kit.

JOIN US

There'll be a photographer on standby and we'll publish as many of your words in the magazine as possible. To stand a chance of winning this priceless prize, simply head over to www.pcformat.co.uk,

and follow the competitions link. Once there, just complete the following sentence in 20 words or less: **I want to visit PCFormat's offices because...**

There are terms and conditions, of course. You must be available for April 4th, winners will be notified on 23rd March. You must consent to us printing your words in the mag and preferably not be allergic to pizza. Good luck – see you in April.

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Should magazines be your thing, you might be interested to hear that we're on the lookout for a new Deputy Art Editor, now that our Brazilian hero Marcelo has moved on to run his own title. If you're an experienced magazine designer looking for a challenge, and fancy getting to play with all the latest PC kit, check out our jobs listings on www.futurenet.co.uk/futureonline/jobs

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Overt to you...

ARE YOU insecure?

Having put the willies up you with our ID theft and eBay fraud features (see p40), we wanted to know how often *PCF* readers fall prey to online evil. Thanks for reading, and don't have nightmares...

Is Linux safer than Windows? 3/4 of you think so.

Meanwhile, **21%** have contracted a virus within the last six months, and almost one in two of those admit they could have avoided that virus with more common sense.

An unlucky **13%** have been victims of ID theft. "Somebody used my personal details to make a false tax credit claim. Documents from my bin, probably. Now I shred everything."

9% of those surveyed don't know what phishing is, but mercifully only **5%** that do have been tricked. "Only n00bs get hooked by phishing." "You have to be a thick **** after all the warnings."

74% use a dedicated spam filter, and **90%** use a firewall other than Service Pack 2's rudimentary one. **1/3** of you don't configure your firewall beyond refusing and accepting connections, though.

A THIRD receive more than two '419' emails (eg. "Dear Sir, I have been entrusted with \$3m inheritance money from a Nigerian prince...") per week, and **9%** have replied to one. Fortunately, most are to insult the scammers. But not all: "He contacted me, told me he needed some cash to help him get more documents (a death certificate, an insurance certificate and so on) so I sent them to him. Then I sent him £3,000 through Western Union, and he asked for £15,000. I went to the bank for a loan, but it informed me was probably a fraud. It didn't grant me the loan, and I'm thankful for that."

From a list including Google, Symantec, Apple and McAfee, you named Zonelabs your most trusted company, and, no surprises here, Microsoft the least. Reasons varied from "More concern with feature loading than stability" to "You need a reason? How long have you got?" to, incredibly, "their CEO (Steve Ballmer) is a hooligan."

If all online pests were as easy to spot as this, we'd never let them anywhere near our PCs.

32% of you claim to have never had a virus. Really?

WIN

Sign up to our newsletter at www.pcformat.co.uk, and you'll receive the Over To You survey. Bung us your answers and you could bag a Shuttle XPC SN25P barebones system.



NEXT MONTH
PCFormat issue 186 is on sale 23 March